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IDENTIFIED AND UNIDENTIFIED GIFTED: A COMPARATIVE ANALYSIS

by

© MARIAN ADELE STELMASCHUK

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND
RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

IN

SOCIOLOGY OF EDUCATION

DEPARTMENT OF EDUCATIONAL FOUNDATIONS

EDMONTON, ALBERTA

Fall, 1986

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled Identified and Unidentified Gifted: A Comparative Analysis submitted by Marian Adele Stelmaschuk in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Sociology of Education.

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Date Oct. 15, 1986.

ABSTRACT

The purpose of this study was to compare the ability, achievement and socioeconomic profiles of a group of "identified gifted" and "unidentified gifted" Canadian high school students (n=967) in order to examine the validity of a number of "myths" commonly held with respect to gifted student populations. These "myths" were as follows: (1) Gifted children will make it on their own despite any special programming; (2) If the gifted are so smart, they should all be getting good grades; and (3) Gifted and talented come from or represent an upper class elite.

Analysis showed that these "myths" were closer to reality than they were to "myth". Whether or not students had been officially identified as gifted and provided with special programming, they were superior achievers with the majority obtaining grade point averages above 80% in junior high school and above 75% in senior high school. Since approximately 2/3 of the sample had never participated in gifted programs, the finding that "unidentified gifted" students equalled and/or surpassed the achievement of "identified gifted" students, particularly at the high school level, showed that the majority of gifted students "made it on their own" with or without gifted programming. Only 35 students (or 3.6%), most of whom were lower class males, consistently scored below 70% in junior and senior high school with neither "identified gifted" or "unidentified gifted" groups having a larger proportion

scoring below 70% than the other.

Analysis also showed that the majority of "identified gifted" and "unidentified gifted" students were of upper middle class origin with less than 12% originating in the lower class. Neither group differed substantively from the other and both had the same occupational groups, and in the same ranked order (i.e., managers, university professors and teachers) contributing the largest numbers to the gifted student population.

Another important finding was that IQ scores were not constant over time and that different groups of students emerged as "gifted" at different stages of development, questioning not only the use of IQ cut-off scores for identification purposes but also the notion of a "reasonable and coherent category of individuals who should be labelled `gifted'" (Robinson, 1977).

ACKNOWLEDGEMENTS

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A special acknowledgement is extended to those individuals within the school system who approved the research study and permitted access to the required data but who must remain anonymous for the sake of confidentiality. Thanks also to the principals of the five high schools and the 59 gifted high school students who agreed to particpate in the study. Without them, the study would not have been possible.

TABLE OF CONTENTS

ABSTRACT iv

ACKNOWLEDGEMENTS vi

TABLE OF CONTENTS vii

LIST OF TABLES xii

LIST OF FIGURES xviii

CHAPTER PAGE

I. INTRODUCTION TO THE PROBLEM 1

The Problem 7
Research Sub-Problems 9
Significance of the Research Study 10
A Note on Methodology 12
Overview of the Thesis 13

II. REVIEW OF THE LITERATURE 15

Section I 16

A. Nature of Giftedness 16
B. Definitional Problems of Giftedness 23
C. Socio-Political Concerns 26

Section II 42

Review of Research Findings 42

D. Giftedness and SES 42
E. Academic/Scholastic Achievement 50
F. Relative Academic Strengths 55
G. Post Secondary Follow-Up Studies 57
H. Personality and Attitudinal Variables........... 63
I. Debate Over Giftedness and Talent Loss.......... 70
J. Characteristics of Underachievers 79
K. Causes of Underachievement 87
L. Kinds of Underachievement 89
M. IQ Constancy 91

III. RESEARCH PROCEDURES 101

Definition of Terms 102

A. Gifted 102
B. "Identified Gifted" 103
C. "Unidentified Gifted" 103
D. Ability 104
E. Achievement 110

CHAPTER **PAGE**

F. Socioeconomic Status 111

Sample Characteristics 117

Data Collection and Analysis 119

A. IQ Data 119
B. Achievement Data 128
C. SES Data 131
D. Subjective Data 132
E. Interview Schedule 133

Summary and Limitations 136

IV. SELECTION: SOCIAL OR PSYCHOMETRIC 140

Section I 141

Grade 10 Sub-sample 141

A. Preliminary Analysis 141
B. Comparison Groups 147

1. Grade 10 "Identified Gifted" 149
2. Grade 10 "Unidentified Gifted"........ 154
(a) Sample Characteristics 154
3. Comparative Levels of Performance 155
4. Comparative Levels of Male and Female Performance 162

C. Summary 163

Section II 166

Grade 11 Sub-Sample 166

A. Preliminary Analysis 166

B. Comparison Groups 168
1. Grade 11 "Identified Gifted" 170
2. Comparative Levels of Performance 173

Section III 177

Grade 12 Sub-Sample 177

A. Preliminary Analysis 177
B. Comparison Groups 179
1. Grade 12 "Identified Gifted" 179
2. Grade 12 "Unidentified Gifted" 183
(a) Sample Characteristics 183
3. Comparative Levels of IQ Performance 183

CHAPTER PAGE

C. Summary 187

V. SOCIOECONOMIC STATUS OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" 193

Section I 194

Analysis of Residential Data 194

A. General Findings 194
B. Grade 10 Sub-Sample 199
C. Grade 11 Sub-Sample 202
D. Grade 12 Sub-Sample 206

Summary 209

Section II 210

Socioeconomic Status of "Identified Gifted" And "Unidentified Gifted" Based on Occupational Data 210

VI. ACHIEVEMENT PROFILES OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS 219

Section I 220

A. General Findings 220
B. Grade 10 Sub-Sample 222
  1. Between-Group Analysis 222
  2. Male/Female Differences 225
C. Grade 11 Sub-Sample 227
  1. Between-Group Analysis 227
  2. Male/Female Differences 230
D. Grade 12 Sub-Sample 232
  1. Between-Group Analysis 232
  2. Male/Female Differences 235
E. Summary 237

Section II 238

Summary and Discussion 252

VII. QUALITATIVE DATA ANALYSIS 255

Section I 258

Interview Sample 258

Section II 262

Aggregate Student Perceptions 262

CHAPTER PAGE

A. Attitudes Towards Self 263
1. As Student and Learner 263
(a) High Achievers 263
(b) Low Achievers 271

2. Personal Goals and Aspirations 274
(a) High Achievers 274
(b) Low Achievers 275
3. Important Personal Values 277
(a) High Achievers 277
(b) Low Achievers 279

B. Attitudes Towards School 281

1. General Attitudes 281
(a) High Achievers 281
(b) Low Achievers 283
2. Attitudes Towards Teachers 286
3. Attitudes Towards Ability Grouping ... 289
(a) High Achievers 289
(b) Low Achievers 293

C. Summary 296

Section III 299

Case Studies 299

Case #1 302
Case #2 307
Case #3 312
Case #4 315
Case #5 318
Case #6 323
Case #7 328
Case #8 333
Case #9 337

Summary and Conclusions 340

VIII. SUMMARY AND CONCLUSIONS 351

Summary of Findings 353

A. Ability 353
B. Socioeconomic Status 360
C. Achievement 363

FOOTNOTES 374

BIBLIOGRAPHY 380

APPENDICES 407

Appendix I - Renzulli's Three Ring Conception of Giftedness 408

Appendix II - Characteristics of Gifted and Talented Students 409

Appendix III - Correlations Between Lorge Thorndike IQ's and Achievement Tests 419

Appendix IV - Letter of Consent 421

Appendix V - Table of Occupations 423

Appendix VI - Distribution Tables of Grade Point Averages 425

Appendix VII - Interviewees' Suggestions for Change in School System.......... 435

LIST OF TABLES

TABLE PAGE

CHAPTER II

2.1 Approximate Proportions of School Population at Various Intellectual Levels 43

2.2 Growth of Intelligence in Terms of IQ Tested with the Binet Method 49

2.3 Comparative Educational and Occupational Attainments of Mensans and Terman's Gifted ... 61

CHAPTER III

3.1 Correlation Between Verbal and Non-Verbal Batteries of Lorge Thorndike Intelligence Tests 105

3.2 Correlations Among Verbal, Quantitative and Non-Verbal Batteries 109

3.3 Intercorrelations of Subtests for Grade 3 Pupils 109

3.4 Distribution of Census Tracts Within the SES Categories 113

3.5 "Identified Gifted" HIgh School Sample 118

3.6 System Totals Writing IQ Tests at Grade 6 and 9 Levels between 1976/77 and 1981/82 ... 119

3.7 Intercorrelations of Lorge Thorndike Verbal Battery with Stanford-Binet, Kuhlman-Anderson and Stanford Achievement 121

3.8 Kuder-Richardson Formula #20 Reliability Estimates by Test Level and by Grade 123

3.9 Standard Error of Measurement for CCAT 124

3.10 Standard Error of Measurement of the Difference between Tests at the 90% Confidence Level 125

3.11 Standard Error of Measurement of Lorge Thorndike Intelligence Tests 128

TABLE PAGE

CHAPTER IV

4.1 System Means for the CCAT for the Grade 10 Student Population in District Y 142

4.2 Comparison of Scores Across Time, Grade and Form 143

4.3 Proportion of Grade 10 Students in District Y Scoring 130+ on Grade 6 and 9 CCAT 146

4.4 Distribution of Grade 10 Students Scoring 130+ on the Grades 6 and 9 CCAT by Battery 147

4.5 Distribution of Grade 10 Students Scoring 130+ in Grade 6 (1978/79) and Grade 9 (1981/82) 148

4.6 Grade 3 IQ Scores for Grade 10 "Identified Gifted" Students 150

4.7 Distribution of Grade 6 and 9 CCAT Scores for Grade 10 Identified Gifted Students (10IG) 152

4.8 Distribution of Grade 6 and 9 CCAT Scores for Grade 10 Unidentified Gifted (10UG6) 157

4.9 Distribution of Grade 6 and 9 CCAT Scores for Grade 10 Unidentified Gifted (10UG9) 158

4.10 Proportions of Grade 10 "Identified Gifted" and "Unidentified Gifted" Scoring >130 in Grades 6 and 9 160

4.11 Summary Table of IQ Medians for Grade 10 "Identified Gifted" and "Unidentified Gifted" Students 161

4.12 Summary Table of IQ Medians for Grade 10 "Identified Gifted" and "Unidentified Gifted" Females 162

4.13 Summary Table of IQ Medians for Grade 10 "Identified Gifted" and "Unidentified Gifted" Males 163

4.14 Proportion of Grade 11 Students Scoring 130+ on Grades 6 and 9 Group Ability Tests 166

4.15 Distribution of Grade 11 Students Scoring 130+ on the Grades 6 and 9 Group Ability Tests by Battery 168

TABLE PAGE

4.16 System Means for the Grade 9 Group Ability Tests 168

4.17 Distriubtion of Grade 11 Students Scoring 130+ in Grade 6 (1977/78) and Grade 9 (1980/81) 169

4.18 Distribution of Grade 3, 6 and 9 IQ Scores for Grade 11 "Identified Gifted" (11IG) 171

4.19 Distribution of Grade 6 LT and Grade 9 CCAT Scores for Grade 11 "Unidentified Gifted" (11UG6) 174

4.20 Distribution of Grade 6 LT and Grade 9 CCAT Scores for Grade 11 "Unidentified Gifted" (11UG9) Students 175

4.21 Summary Table of IQ Medians for Grade 11 "Identified Gifted" and "Unidentified Gifted" Students 176

4.22 Summary Table of Grade 11 Proportions Scoring >130 in Grades 6 and 9 176

4.23 Proportion of Grade 12 Students Scoring 130+ on the Grade 6 and 9 Lorge Thorndike 178

4.24 Distribution of Grade 12 Students Scoring >130 on the Grades 6 and 9 Lorge Thorndike 178

4.25 Distribution of Grade 12 Students Scoring 130+ in Grade 6 (1976/77) and Grade 9 (1979/80) ... 180

4.26 Distribution of Lorge Thorndike IQ Scores for Grade 12 "Identified Gifted" Males and Females (12IG) 181

4.27 Distribution of Lorge Thorndike IQ Scores for Grade 12 "Unidentified Gifted" Males and Females (12UG6) 185

4.28 Distribution of Lorge Thorndike IQ Scores for Grade 12 "Unidentified Gifted" Males and Females (12UG9) 186

4.29 Summary Table of IQ Medians for Grade 12 "Identified Gifted" and "Unidentified Gifted" Students 187

4.30 Proportions of Grade 12 "Identified Gifted" and "Unidentified Gifted" Scoring >130 in Grades 6 and 9 187

TABLE PAGE

CHAPTER V

5.1 SES Profiles of "Identified Gifted" and "Unidentified" Aggregates 195

5.2 SES Profiles of Grade 10 "Identified Gifted" and "Unidentified Gifted" Students 200

5.3 SES Profiles of Grade 11 "Identified Gifted" and "Unidentified Gifted" Students 204

5.4 SES Profiles of Grade 12 "Identified Gifted" and "Unidentified Gifted" Students 208

5.5 % "Identified Gifted" and "Unidentified Gifted" for Whom Father's Occupational Status Was Unknown 211

5.6 SES Distribution of "Identified Gifted" and "Unidentified Gifted" High School Students Using Occupational Data 212

5.7 Ranked Order of Occupational Groups Contributing to "Identified Gifted" and "Unidentified Gifted" Student Populations 217

5.8 % of "Identified Gifted" and "Unidentified Gifted" Fathers in Business and Industry 217

CHAPTER VI

6.1 Summary Table of GPA Medians for Junior and Senior High School for Grade 10 "Identified Gifted" and "Unidentified Gifted" Students ... 223

6.2 Proportion of Grade 10 "Identified Gifted" and "Unidentified Gifted" Obtaining Honors ... 225

6.3 Summary Table of Grade 10 "Identified Gifted" and "Unidentified Gifted" Male and Female GPA Achievement 226

6.4 Summary of GPA Medians for Grade 11 "Identified Gifted" and "Unidentified Gifted" Students ... 228

6.5 Summary Table of Grade 11 "Identified Gifted" and "Unidentified Gifted" Students Scoring Above 80% in Junior and Senior High School ... 229

6.6 Summary Table of Junior and Senior High School GPA Medians for 11IG, 11UG6 and 11UG9 Students 231

TABLE PAGE

6.7 Summary Table of Junior and Senior High School GPA Medians for 11IG, 11UG6 and 11UG9 Males .. 231

6.8 Summary of GPA Medians for Grade 12 "Identified Gifted" and "Unidentified Gifted" Students ... 233

6.9 Proportion of Grade 12 "Identified Gifted" and "Unidentified Gifted" Scoring Above 80% .. 234

6.10 Summary Table of GPA Medians for Junior and Senior High School for 12IG, 12UG6 and 12UG9 Females 236

6.11 Summary Table of GPA Medians for Junior and Senior High School for 12IG, 12UG6 and 12UG9 Males 236

6.12 Distribution of Grade 10 "Identified Gifted" and "Unidentified Gifted" Low Achievers 239

6.13 Distribution of Grade 11 "Identified Gifted" and "Unidentified Gifted" Low Achievers 240

6.14 Distribution of Grade 12 "Identified Gifted" and "Unidentified Gifted" Low Achievers 241

6.15 Distribution of Grade Point Averages for "Identified Gifted" and "Unidentified Gifted" in Junior and Senior High School 242

6.16 Number of "Identified Gifted" and "Unidentified Gifted" Consistently Scoring Below 70% in Grades 7, 8 and 9 244

6.17 Number of "Identified Gifted" and "Unidentified Gifted" Students Beginning Decline in GPA's in Grades 8 or 9 249

6.18 Grade 10, 11 and 12 "Identified Gifted" and "Unidentified Gifted" Scoring Below 70% 250

6.19 Total Number of "Identified Gifted" and "Unidentified Gifted" Students Obtaining GPA's <70% in one or more Junior and Senior High Grades 252

CHAPTER VII

7.1 Characteristics of Interview Sample 260

7.2 Individual SES Characteristics of Interview Sample Based on Residential Data 261

7.3 Goals of "Identified Gifted" and "Unidentified Gifted" High and Low Achievers 275

7.4 Most Important Values of High Achievers and Low Achievers 278

LIST OF FIGURES

FIGURE PAGE

3.1 Stem and Leaf Display of SES Distribution in Metropolitan Area of School District Y 114

4.1 Ability Profiles of Grade 10 "Identified Gifted" and "Unidentified Gifted" Students ... 156

4.2 Ability Profiles of Grade 12 "Identified Gifted" and "Unidentified Gifted" Students ... 184

5.1 SES Distribution of Grades 10, 11 and 12 "Identified Gifted" and "Unidentified Gifted" Students 196

5.2 SES Profiles for Grade 10 "Identified Gifted" and "Unidentified Gifted" Students 201

5.3 SES Profiles for Grade 11 "Identified Gifted" and "Unidentified Gifted" Students 205

5.4 SES Profiles for Grade 12 "Identified Gifted" and "Unidentified Gifted" Students 208

5.5 SES Profiles for Grade 10 "Identified Gifted" and "Unidentified Gifted" Students 213

5.6 SES Profiles for Grade 11 "Identified Gifted" and "Unidentified Gifted" Students 214

5.7 SES Profiles for Grade 12 "Identified Gifted" and "Unidentified Gifted" Students 215

6.1 Summary Table of GPA Medians for Grade 10, 11 and 12 "Identified Gifted" and "Unidentified Gifted" Students 222

6.2 Patterns of Achievement for "Identified Gifted" and "Unidentified Gifted" Grade 10 Students as indicated by GPA Medians 224

6.3 Patterns of Achievement for "Identified Gifted" and "Unidentified Gifted" Grade 11 Students as indicated by GPA Medians 229

6.4 Patterns of Achievement for "Identified Gifted" and "Unidentified Gifted" Grade 12 Students as indicated by GPA Medians 235

CHAPTER I

INTRODUCTION TO THE PROBLEM

During the last decade, one of the most significant changes in education has been the institutionalization of programs for gifted and talented students. For many, this has been a change which is long overdue since it is felt that gifted and talented students are the "most neglected minority" in schools today. Encouraged by Marland's report (1972) to the American Congress which urged programming for this "neglected minority", advocates have successfully lobbied for the implementation of gifted programs, a success readily apparent in the accompanying developments:

(1) Legislation of programming for gifted and talented students in a number of states and provinces accompanied by the possibility of litigation against schools denying special programming to gifted students

(2) Proliferation of books, articles and reports devoted to education of gifted and talented students

(3) Creation of a new industry and market for educational materials designed for gifted and talented students

(4) Creation of a new job sector in educational bureaucracies in the form of supervisors, consultants and specialist teachers

(5) Development of undergraduate and graduate programs in gifted education

(6) Development of local, national and international associations and organizations devoted to gifted education

Programming for gifted students, however, is not new to the educational scene. Twice before programs have flourished, the first time being during the 1920's and 1930's and the second time being during the late 1950's and early 1960's. What is new is the legislation of programming[1] for gifted and talented students, a change which signifies a strength never before experienced and which portends other changes to come in public education. In Alberta alone, the growing momentum for programming is made apparent by the recent commission of a government Task Force investigating education for gifted students and by its subsequent recommendation that "there is an urgent and critical need to recognize the gifted and talented children of Alberta and to provide adequately for their special educational needs" (Sillito and Wilde 1983:2). Should the Task Force's recommendation be approved, legislation will be forthcoming and education for gifted and talented students will become, by necessity, an enduring feature of educational programming throughout the province. In this event, Alberta will follow in the footsteps of Ontario, Saskatchewan and British Columbia[2] as well as the majority of the United States.[3] These changes, then, not only mark the legitimization of gifted education but also foretell the implementation of other changes in general educational programming.

What is particularly significant about these changes is that they have occurred in a climate marked by considerable controversy and dissensus regarding a number of important and still unresolved issues readily acknowledged by experts in the area. The most central concern is that expressed by Renzulli (1980) who notes that "neither selection procedures nor very much of what happens in these programs is justified by research." This concern derives from the fact that the major problematic, i.e., the issue of identification, still has not been resolved. Now, as in the past, critics take issue with the definition of gifted and subsequently of identification procedures, seeing both as limiting, discriminating and elitist.

As traditionally conceived, the concept of giftedness--"the ability to make a high score on such intelligence tests as the National, the Terman Group and the Stanford Binet" (Terman 1925:631) -- is linked to a world view of intelligence and individual differences as being finite, innate and hereditary. It is also linked to a meritocratic world view which sees social status and inequality as being derivative of innate capacities which are measurable by IQ tests. Because IQ tests have been found to favour students from high SES and culturally advantaged backgrounds, and because disproportionate numbers of students from white, urban upper class backgrounds are identified as gifted, critics argue that programs for gifted students are essentially undemocratic and elitist in nature. Consequently, the perceived biases in identification of gifted students along with the inherent assumptions regarding intelligence and its etiology have resulted in the confusion which exists today. Because of these ideological underpinnings, the issue of gifted education is not merely an educational issue. It is also a social and political issue since it is, and always has been, the centre of debate and controversy on individual differences and whether, or how, schools should attempt to accommodate them. Considered as a totality, the literature on gifted education is an attempt to grapple with this larger issue while at the same time, it is an attempt to resolve the dilemma of how mass education can equitably organize itself to accommodate the varying differences readily observable in children. In short, it is an attempt to resolve the dilemma of whether schools should legitimize these differences by "labelling" them and trying to program for them.

Within this context of debate, proponents of gifted education argue that intervention is both necessary and democratic in that gifted and talented students should be afforded equal opportunities to receive an education commensurate with their abilities. They argue that the present mainstreaming practices, along with the cult of mediocrity, prevent the brightest from rising to the top and fulfilling their promise. They argue that gifted students, by being forced to function in heterogenous groupings, are thwarted, stifled, underchallenged and "levelled to the norm", the consequence being they are over-represented in the group of dropouts, delinquents and suicides.[4]

These concerns are clearly articulated in a letter to

Alberta M.L.A.'s (March 1983) urging implementation of programming for gifted and talented students within the province. An excerpt from the letter reads:

> "In Alberta much progress has been made on behalf of handicapped children, but there is absolutely nothing mandated for our brighter students, up to 40% of whom will drop out of school because of boredom and frustration with the regular curriculum and unsensitized teachers. We feel this is a great waste to self and society. A.B.C. would like to see introduced in the fall of 1983, legislation similar to Ontario's Bill 82 mandating the provision of education suited to each child's needs with particular reference to the gifted" (Association for Bright Children Newsletter, March 1983).

Proponents therefore assume that gifted programs will prevent this "talent loss" and that students as well as society will benefit from their implementation. In fact, "Society must have their contributions. It needs them, whether for sheer survival or for cultural enrichment" (Laycock 1979:87). Implicit in this assumption is the firm belief they will ultimately attain positions of power and influence, thereby forming a natural elite based on innate talent and merit. For interventionists then, programming for gifted and talented students is both a facilitative and necessary mechanism which will ensure that the social selection process occurs as naturally intended and that the "brightest and the best" rise to the top.

Premised on these arguments, the rationale for programming for gifted and talented is two-fold:

(1) Gifted students need special programming if they are to maximize their potential.

(2) Gifted students have a right to educational programming commensurate with their abilities.

As Rothney (1979:IX) points out, however, there is little documentation to support the argument that gifted students need special programming to realize their potential although he feels there are certainly widespread beliefs to this effect. The need for "conclusive documentation" becomes all the more important in light of the findings that gifted and talented students continue to be identified on the basis of IQ scores despite the many cautions of experts in the area. In a survey of identification practices throughout America, Richert, Alvino and McDonnel (1982) found that identification procedures "were in considerable disarray" but that the most questionable were the ones using IQ tests with disadvantaged and limited English - speaking students. Since IQ tests had never been designed for these student populations nor for this purpose, they felt that these students were being placed at a considerable disadvantage and were less likely to be identified for gifted programs than advantaged English - speaking children. As far as they were concerned, identification procedures were in need of revision and ...

> "...in one form or another the question which must be addressed is this: To what extent are current practices misidentifying children, identifying as gifted those who are not, and failing to identify those who are?" (1982:130-131).

Therefore, if government researchers are concerned with the possibility that students are being misidentified, then it becomes important to find out exactly which students are being identified for gifted programs and whether or not they are the ones whom proponents claim are bored, drop out of school and/or underachieve? It is also important to find out whether or not gifted programs, when offered, are effective in preventing this presumed talent loss.

A study which examines the problem of identification and these relationships may lend much needed support to the arguments of advocates or may, in fact, refute them. Research is thus required.

THE PROBLEM

In an article, "Myths that Plague the Development and Implementation of Programs for the Gifted and Talented: A Visual Study" (Millar 1981), the arguments posed by advocates and the challenges raised by critics have been presented as "Myth" and "Reality" statements. These myths are summarized by Millar (1981) and then counterposed with reality statements presumably describing the existing state of affairs.

The purpose of this study is to examine the extent to which three of these "myths" and "realities" are true with respect to a gifted student population in a large Canadian city.

The myth and reality statements forming the base of this study are as follows:

"MYTH - GIFTED CHILDREN WILL MAKE IT ON THEIR OWN DESPITE ANY SPECIAL PROGRAMMING.

REALITY - It is a fact that many drop-outs in high school are bright children who have found little meaning in the school experience. Some studies have shown that up to 55% of the gifted and talented are working below the level at which they are capable " (Millar, 1981:12).

"MYTH - IF THE GIFTED ARE SO SMART, THEY SHOULD ALL BE GETTING GOOD GRADES.

REALITY - Research indicates that up to 12% of gifted children have reading problems. Underachievement in the gifted begins as early as the third grade " (Millar, 1981:13).

MYTH - GIFTED AND TALENTED COME FROM OR REPRESENT AN UPPER MIDDLE CLASS ELITE.

REALITY - The gifted and talented come from every racial, cultural, educational and socioeconomic background " (Millar, 1981:13).

The research problem, then, is to investigate the extent to which the so-called "reality" statements are themselves myths and the extent to which the "myths" are in fact realities.

In order to examine the validity of these "myths" and "realities", the ability, achievement and social profiles of two groups of gifted students, i.e., "identified gifted" and "unidentified gifted", will be compared. "Identified gifted" students are those who were officially identified as gifted and who were provided with special educational programming during the elementary grades. "Unidentified gifted" students are those who were not so identified and who did not have access to gifted programming but who would have qualified for such programming on the basis of their IQ scores. By following - up these two groups of gifted students, a clear picture of what actually happens to gifted students over the junior and senior high school years will be provided as will an indication of which talent groups are lost in the school system. The question of whether or not special interventionist programs succeed in their goal of preventing talent loss will then be better addressed and will ultimately help in clarifying:

(1) the nature of giftedness as defined and operationalized by school systems

(2) the relationship between giftedness and academic achievement

(3) the relationship between giftedness and socioeconomic status (SES)

RESEARCH SUB - PROBLEMS

The specific questions guiding the study are as follows:

(1) Do students who participate in gifted programs succeed academically and if not, why not?

(2) Do gifted students who have not participated in interventionist programming "make it on their own"? In other words, do they achieve well in school despite the fact that they have not participated in gifted programming?

(3) Do those who have participated in gifted programs achieve better academically than those who have not participated? In other words, does gifted programming appear to have a positive effect on later academic achievements of participants? Does special educational intervention appear to counter the gender and SES effects known to affect student achievement?

(4) Do large numbers of gifted students, "identified or unidentified", achieve below the level at which they are capable? Is the percentage as large as the 55% suggested by Millar (1981:12)?

(5) Is there a difference between high achievers and low achievers in both "identified gifted" and "unidentified gifted" groups of students in terms of SES and gender?

(6) Do gifted students actually maintain their IQ test scores in the gifted range, i.e., 130+ ? What kind of changes occur over time in IQ test scores? Are these patterns discernible for both "identified gifted" and "unidentified gifted" students?

(7) Do gifted and talented students come primarily from upper middle class elites or do they come from all socioeconomic groups? Is there a difference between "identified gifted" and "unidentified gifted" students?

SIGNIFICANCE OF THE RESEARCH STUDY

Despite the fact there is a fairly longstanding history of gifted education, a renewed enthusiasm in its re-establishment, and a significant ideological debate involved, whether these programs are essentially elitist in nature or whether they are critical for the development and enhancement of "natural talents" cannot be answered because of the dearth of research in the area, particularly on Canadian gifted student populations. Little current knowledge exists with respect to the nature of gifted student populations, their academic and social profiles, or the effectiveness of gifted programs. In fact, much of the existing literature is out-dated and lacking in empirical validation. It is all too common to find writers in the area citing one another's opinions and insights, but not well controlled and documented research findings. The need definitely exists to establish a broader base of knowledge which accurately reflects the academic, social and intellectual profiles of gifted students and which explores the problematics of gifted programs themselves.

It is assumed that the recent developments in the area of gifted education would have been accompanied by the development of a strong research base. This, however, was not the case. As Tannenbaum (1983:36) correctly points out, the "thrust of recent activity for the gifted has been mostly programmatic and promotional with relatively little emphasis on research". The result of this is "that the field of gifted education has experienced a kind of research drought in the past decade" (Gallagher 1979:79), well illustrated by Culros's (1983:2) finding that of the 81 entries listed in ERIC under the topic of "Gifted and Talented" between 1972 to 1982, only four were research based. The others were literature reviews and position papers.

It is not an overstatement, therefore, to claim that there is a desperate need for research on gifted student populations. This is, in fact, underlined by Sillito and Wilde (1983) in their report to the Alberta Minister of Education when they state that "continuing research is needed to determine and evaluate the best programs and identification procedures for gifted and talented children" (1983:15) and that such research should be encouraged and supported.

It is with these needs in mind that the present research study has been developed. Not only will it meet the need for a longitudinal study comparing the achievements of gifted students who have had access to gifted programming with those who have not, but it will also meet the need to investigate the "essentially unsupported contentions that the gifted are relatively equally prevalent among the different socioeconomic strata" (Newland 1976:329). Most important, it will meet the need to determine how gifted students themselves feel about gifted programs and whether or not they see programs as essential to their development. These research needs are heightened by their timeliness.

A NOTE ON METHODOLOGY

Though the specifics of methodology and limitations of the study are discussed in Chapter III, it is important to note that the study is longitudinal in nature and that its major purpose is to discover trends and emergent patterns of change in the ability and achievement profiles of "identified gifted" and "unidentified gifted" students through the analysis of secondary data. Thus, it does not seek statistical differences but rather qualitatative differences in the respective profiles. To this end, descriptive statistics are used in the analysis.

According to Hyman (1972), secondary analysis is particularly beneficial since it provides an increase in substantive knowledge and an understanding of the processes of change. It also provides the empirical data base necessary for theory-building, a need which clearly exists with respect to gifted student populations. As he says ...

> "Secondary analysis benefits science in many ways, all stemming from one fundamental feature of the method. It expands the types and number of observations to cover a wide array of social conditions, measurement procedures and variables than can usually be studied by primary studies. Thus it produces a more comprehensive and definitive empirical study of the problems the investigator has formulated ... we are stimulated to think about otherwise forgotten problems and forced in the direction of higher levels of abstraction" (Hyman 1972:11).

OVERVIEW OF THE THESIS

Chapter II of the thesis provides a critical review of the literature as it relates to gifted student populations and the three variables in question, i.e., academic achievement, SES, and giftedness. It also provides a brief overview of the major issues in the identification of gifted students from a socio-political perspective and hence, provides the theoretical framework within which the study is developed. Because the study draws upon an extensive literature base in sociology, psychology and education, only the major findings as they relate to the variables in question are reviewed.

Chapter III provides a discussion of the methodology used in the study as well as the limitations while Chapters IV, V and VI provide the results from the analysis of IQ, SES and achievement data for grade 10, 11 and 12 "identified gifted" and "unidentified gifted" students. Chapter VII summarizes the findings from the interview data obtained from high and low achievers (n=59) and the last chapter summarizes the findings with respect to the three "myths" lying at the base of the study.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter provides a critical review of the literature as it relates to giftedness, achievement and socioeconomic status of gifted student populations. Though the chapter reviews specific research findings directly related to the sub-problems of the study, it also provides a review of the major issues in gifted education. This is important for a number of reasons. First, it underlines the reason why gifted education has met with such opposition throughout the century and second, it helps "set the stage" for the present research study. In so doing, it establishes the theoretical framework within which the study is developed and from which future research is likely to emerge.

The chapter is organized into two major sections with the first section providing a review of the issues of gifted education while the second section provides a review of the empirical literature with respect to the manifestation of giftedness. The second section includes several sub-sections, these being:

- Giftedness and Socioeconomic Status (SES)
- Academic/Scholastic Achievement
- Relative Academic Strengths
- Post Secondary Follow-up Studies
- Personality and Attitude Variables
- Debate over Giftedness and Talent Loss
- Characteristics of Underachievement
- Causes of Underachievement
- Kinds of Underachievement
- IQ Constancy

It should be pointed out that most of the studies cited in Section II were conducted during the 1950's and 1960's when research on gifted student populations was at its peak and was encouraged and financially supported by the American Government. Few studies have been conducted since then which would either challenge and/or confirm these past findings, thereby making them extremely important since they form the base of existing knowledge of gifted student populations.

SECTION I

A. NATURE OF GIFTEDNESS

Traditionally, giftedness has been defined in psychometric terms with giftedness being seen as synonymous with a high IQ score. The cut-off score delineating gifted from non-gifted, however, has varied over time and place, with giftedness ranging anywhere from 110+ to 140+ IQ, and from the top third to the top 1-2% of a given student population. Distinctions in degree of giftedness have also been made with highly gifted (or "first order" gifted) generally being those scoring 140+ ; moderately gifted (or "second order" gifted) being those scoring between 130 -140 and mildly gifted being those scoring 130 or slightly below. The variety of terms that have been used to describe them, i.e., "most able", "superior", "bright" and "academically talented", and the location of their accomplishments, i.e., school, college and the professions, have clearly equated giftedness with high academic achievement. Consequently, the nature of giftedness has been bounded by the limits imposed by IQ test performance and academic achievement.

This definition of giftedness in terms of high IQ scores was first established by Terman (1925:631) who defined giftedness as "the ability to make a high score on such intelligence tests as the National, Terman Group and Stanford-Binet". Based on his research, he found that gifted students, as well as being high IQ scorers, were also superior in all aspects of intellectual, moral, social and physical development. As he found, they were ...

> "... in general, appreciably superior to unselected children in physique, health and social adjustment; markedly superior in moral attitudes as measured either by character tests or by trait ratings; and vastly superior in their mastery of school subjects as shown by a three hour battery of achievement tests. In fact, the typical child of the group has mastered two grades beyond the one in which he was enrolled ... his ability is so general as to refute completely the traditional belief that gifted children are usually one-sided."

Or very simply, they were the ones who did "things a little earlier, a little more quickly, a little better and a little differently from other children" (Ginsberg 1979:74). Stated somewhat differently, they were the "epitome of what everything teachers and parents would want" (Maker 1977:7).

Challenges to this limited and narrow definition of giftedness eventually saw the inclusion of creativity as an important dimension of giftedness although for several decades, creativity was seen as separate and distinct from intelligence. For many, it still is, even today (see Gagne 1985). However, Guilford (1957), in his Structure of the Intellect Model (SOI), drew attention to creativity as an important dimension of the human intellectual process and Torrance (1960, 1963, 1965), among others, urged its incorporation into the definition of giftedness. This was done in 1972 when the United States Office of Education (USOE) developed the following definition. As noted, even though creativity was included in the definition, it was still seen as separate from "general intellectual ability".

> "Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society.
>
> Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:
>
> 1. General intellectual ability
> 2. Specific Academic aptitude
> 3. Creative or Productive Thinking
> 4. Leadership Ability
> 5. Visual and Performing Arts
> 6. Psychomotor ability
>
> It can be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of 3 to 5% of the school population."

Renzulli (1978) took issue with this definition because of a number of inherent problems. The first lay in its total neglect of nonintellective (motivational) factors even though research had shown that gifted individuals had a number of common characteristics which enhanced or even facilitated their giftedness (See Roe 1953; Cox 1926; Goertzel & Goertzel 1962; Brandwein 1955, 1981). Furthermore, Terman's follow-up studies clearly revealed that the most productive and creative gifted adults differed significantly from the least successful in terms of their "persistence in accomplishment of ends, integration toward goals, self confidence, freedom from inferiority feelings, ... all round emotional and social adjustment and in the drive to succeed." Given these findings, Renzulli argued that nonintellective factors should be incorporated into the definition of giftedness.

The second problem with the USOE definition was that it confused abilities with performance areas. Of the six abilities and/or aptitudes identified in the definition, four were cognitive abilities and two were specific performance areas, i.e., specific academic aptitudes and visual and performing arts. Renzulli's argument was that regardless of the performance area in which the individual functioned, he/she applied cognitive abilities to perform that particular task. Therefore, to speak about visual and performing arts as devoid of general intellectual and/or creative abilities was to make a distinction which was unwarranted and unjustified since in the performance of any given task, intellectual processes were necessarily applied in its accomplishment.

The third problem arose with the misinterpretation and misuse of the definition. Because of its inherent lack of clarity, it permitted educators to interpret the six listed categories as being mutually exclusive, the consequence being that many school districts addressed one or two of these abilities in their programs yet used IQ scores and/or achievement measures to identify students regardless of the ability being addressed. Inappropriate identification procedures were therefore being used, resulting in an incongruity between, and abuse of, identification procedures and type of ability being identified.

To redress some of the problems inherent in the USOE definition, Renzulli (1978) proposed a new definition of giftedness, this being:

> "Giftedness consists of an interaction among three basic clusters of human traits -- these clusters being above average general abilities, high levels of task commitment, and high levels of creativity. Gifted and talented children are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of performance" (see Appendix 1 for a graphic representation).

Though Renzulli's definition of giftedness was more holistic than either Terman's or the USOE's definition, it was nonetheless biased towards the middle and upper classes since the nonintellective characteristics typifying gifted individuals (see Appendix 2) were also the ones typifying high academic achievers and high SES students (see McClelland 1953; Rosen 1956, et al). In fact, the pervasive influence of SES on learner characteristics, and hence on giftedness, was readily acknowledged in the State of California's Gifted Program Policy Handbook in its description of gifted children ...

> "... adroit verbal inquiry, good use of formal English, delayed gratification, system-mindedness, and respect for authority ... but these things are not usually transmitted in underpriveleged families. Disadvantaged children who have not learned how to learn from adults are motoric more than reflective, and they probably have a sense of alienation from teachers because they cannot fit into school expectancies. There is considerable evidence that when giftedness is found in lower class children, it is likely to be manifested or discovered in those families who are upwardly mobile and who accept middle class values" (California State Dept. of Education 1979: 86).

Despite its middle class bias, Renzulli's definition was no longer as narrow nor as restrictive as the previous defintions had been, having moved from a presumed incidence of 2% - 5% of the population being considered gifted to a broader, more encompassing 20% - 25%. It also moved away from the static psychometric view of giftedness to a more dynamic, interactive view in which giftedness was in the "state of becoming" and was context-specific. Thus, it was no longer perceived as a "constant", i.e., as a fixed attribute like the color of one's eyes but rather as a changing, developmental characteristic that was task and time-specific. In this sense, no one was "gifted in all regards and in all ways and for all seasons" (Trezise 1980:46). Giftedness was instead manifest in different ways by different individuals at certain times and under certain conditions.

Though Renzulli's definition was more palatable to the critics, it still was not universally accepted. Ironically enough, it was its breadth which drew the greatest criticism. By making giftedness appear more democratic (Maeroff 1983:16), it contributed to an even greater confusion about who the gifted really were, a consequence being that recent attempts to define the gifted were narrowing its scope once more. Clark (1979, 1983) for example, proposed a definition which was primarily neurobiological in nature even though she acknowledged the fact that a nurturing environment was necessary to develop intellectual abilities. But rooted in neurobiology, her definition ignored the significant role of culture in defining and selecting those behaviours which were perceived to be gifted and in so doing, echoed some of the deterministic views that were expressed at the turn of the century or more recently, by Jensen (1969) and Herrenstein (1971). Her definition reads as follows (1983:6):

> "Giftedness is a biologically rooted concept, a label for a high level of intelligence that results from the advanced and accelerated integration of functions within the brain, including physical sensing, emotions, cognition and intuition. Such advanced and accelerated function may be expressed through abilities such as those involved in cognition, creativity, academic aptitude, leadership, or the visual and performing arts. Therefore, with this definition of intelligence, gifted individuals are those who are performing, or who show promise of performing, at high levels of intelligence."

Whether or not giftedness is biologically rooted remains an open question but the behaviours that a society chooses to value are not. They are culturally rooted and in this sense, the concept of giftedness can only be culture-dependent and time-specific (see also Pressey 1955, Newland 1976).

B. DEFINITIONAL PROBLEMS OF GIFTEDNESS

As already indicated, definitions of giftedness are varied and cover a broad spectrum ranging from those which are narrowly based to those which are broad and all encompassing, or as suggested by Laycock (1979:80) ranging from "the mystical to the prosaic". According to Povey (1980:8), the attempts to include as many aspects of individual achievement as possible run "the risk of achieving an almost never ending elasticity ... so that at some point they become more of a hindrance than a help." These attempts also run the risk of challenging the concept itself, and hence, its very existence.

Though attempts at definition themselves present difficulties, it is in the process of operationalization that the major problem emerges and to which most opposition is directed. Operationalization means that identification criteria must be selected and that students must be "sifted, sorted and categorized" accordingly. It is therefore the labelling process to which critics are opposed, for it is in the process of measuring giftedness that certain skills and talents are selected out as being more valued than others. Operationalization thus reifies the theoretical construct and reduces it to only that which is observable and measurable.

Contrary to popular opinion, gifted students are not easy to identify. Educators find identification extremely difficult especially since the distinction between "gifted" and "bright" is not clear-cut. It is further complicated by the fact that perception of giftedness varies with the perceiver and the social group with whom comparison is made. A child appearing to be gifted in one setting may not appear to be gifted in another. Gold (1979) suggests that in essence, there are really two kinds of giftedness -- an absolute giftedness in which there is no question of the individual's exceptionality, independent of time and place, and a relative giftedness in which the individual's perceived giftedness is situation-specific and time and space-dependent. In this, it seems that only the "genius" is readily identified and even then, it is only a posteriori.[1]

If giftedness cannot be identified a priori, then one is merely dealing with potential. It then becomes a value judgment as to which potential and at what age level this potential should be identified as gifted. The identification process, therefore, clearly poses serious difficulties for program planners and is made even more difficult with the recent developments in cognitive psychology and sociology. The consequent confusion has created a dilemma for program planners for on the one hand, they are expected to implement programs for gifted and talented students, but on the other, they are not sure for whom they are providing programs. Villars (1982:1), State Co-ordinator for Gifted and Talented Programs in Colorado, feels there is just too much uncertainty in the area and laments that ...

> "After nearly two generations of fitful, if not fruitful, activity in this country directed towards justifying and developing special educational programs for gifted and talented children, we might assume at least we knew for whom we were looking. And perhaps, to some extent, we do know. However, it may be suggested that those students whom we presently serve represent but the tip of the iceberg ... of greater concern, however, is the possibility that our present programming efforts, as limited as they seem to be, may not even be including those children who are (or will be) truly gifted."

Because of this confusion, experts in the field are beginning to question whether or not identification procedures are even necessary. Birch (1984) for one, challenges the "identification placement" paradigm currently governing educational practice and argues it should be replaced with an "assess - educate" paradigm whereby educational needs of students, and not their imposed labels, determine program placement. He strongly opposes present practices and feels that not only are programs being institutionalized but also identification procedures.

Sanborn (1978), Treffinger (1984) and Renzulli (1986) among others, agree that educational needs should govern program placement, arguing that if identification is necessary, then it should be the first stage of educational planning and not the last. Unfortunately, present practices are such that once children have been classified as gifted on the basis of arbitrary IQ cut-off scores, no matter how different they are from each other, there is the assumption that they are all alike and that the same program will be equally beneficial.

Operationalization of giftedness, therefore, is problematic not only because of the uncertainties with respect to its nature but also because of the issues generated by its inherent labelling process. These issues have given rise to widespread concern about the identification of gifted children and the consequent implementation of gifted programming, concerns expressed both by those working in the field and those very much opposed.

C. SOCIO-POLITICAL CONCERNS

It is only when these concerns are placed in a socio-political context that the reasons for the concerns emerge, reasons which are imbedded in the conflict between the dominant ideologies purporting to explain social inequality and which see schools playing a critical role in its reproduction.

On the one hand, interventionist programs which seek to select the brightest students from heterogenous groupings for special programming are wholly consistent with the meritocratic position. Optimal development is sought not only for personal benefit but also for benefit to the society at large. The underlying assumption is that these students will naturally assume positions of power and influence and will become, as Jefferson had hoped, the "aristocracy of achievement arising out of a democracy of opportunity", i.e., a natural elite comprised of individuals who earn their social positions on the basis of natural talent and merit.

This assumption derives from the basic Functionalist position in which there is a perceived relationship between innate abilities and social positions attained in the stratification system. As expressed by Kingsley Davis and Wilbur Moore (1945:367):

> "Society must have some kinds of rewards that it can use as inducements and some way of distributing these rewards differently according to positions. Social inequality becomes an unconsciously evolved device by which societies are conscientiously filled by the most qualified persons ... differential rank arises because not all tasks are equally important to social survival and different jobs require different degrees of trained capacity, and inherited qualities which are not distributed equally throughout a population."

Thus, inherited qualities within this perspective are in large measure quantifiable by intelligence tests; consequently, high IQ scorers are presumed to be the brightest and the best. They, in turn, are expected to obtain the highest educational qualifications which are then reflected in the highest social positions. Herrenstein (1971:197) claims this relationship is so obvious that it can be stated simply in syllogistic form ...

> "1. If differences in mental abilities are inherited, and
> 2. If success requires these abilities, and
> 3. If earnings and prestige depend on success
> 4. Then, social standing (which reflects earnings and prestige) will be based to some extent on inherited differences among people."

The Functionalist position, therefore, sees social inequalities deriving from differences in ability, merit and effort with the most able, i.e., the high IQ scorers, naturally rising to the top. However, to ensure that they are recognized and appropriately rewarded, "no matter where they are in the society, (they) should be brought to the top in order to make the best use of their talents" (Bell 1973:607-608). Within this framework then, education for the gifted is seen as both facilitative and necessary to ensure that the brightest rise to the top and that the selection process occurs as naturally intended. In this way, not only will the social system function smoothly and efficiently but it will also benefit from its investment in "human capital" through the economic and cultural contributions of these capable individuals. The relationship between inherited abilities and differential rankings is thus seen as direct and causative with schools acting as the "gatekeeper" and "arbiter of class position" (Bell, 1973). Programs for gifted students are therefore democratic and just, and failure to provide them with an appropriate education is seen as unjustified discrimination against them (Tannenbaum, 1979).

This position is implicit in the stated rationale for gifted programming in California (Department of Education Guidebook, Principles, Objectives and Curricula for Programs in the Education of Gifted and Talented Pupils (1979) which reads ...

> "There is purpose behind that type of education which recognizes needs based on gifted uniqueness and which invests accordingly in programs for differentiated education. Maximal return of society's investment in its potential resources will be realized. The gains from its investment in terms of salvaging human talent are immeasurable. The fulfillment of human talent leads to a mental adjustment out of which genuine contributions to society are created" (1979:17).

Opposition to this set of beliefs has been expressed in a variety of ways by many researchers. J.W.B. Douglas (1964) for one, takes issue with the meritocratic notion that there is a "limited pool of talent", arguing firstly that schools are myopic in their identification of talent and secondly that they are ineffective in locating and nurturing that talent, particularly that of working class children (1964:127).

Torrance (1977) for another, focuses upon the limited conception of giftedness and the consequent inappropriateness and inadequacy of intelligence tests for measuring human abilities. He argues that IQ tests measure a mere sampling of intelligent behaviours and do not even tap those of creative thought production. Though not opposed to gifted progams, he is opposed to the restrictiveness of IQ tests because of their limitations and total neglect of creative abilities. His opposition, therefore, derives from their inherent biases against global and/or creative thinkers as well as their biases against culturally disadvantaged children, neither of whom fare as well as typical middle class, field-independent thinkers.

Whereas Torrance (1975,1977) takes issue with the limiting nature and cultural biases of IQ tests, Taylor (1968,1969) takes issue with their numeric limits. He argues that there are basically six broad intellectual talents -- academic, creative, planning, forecasting, deciding and communicating -- and that potential giftedness is reflected in above average ability in any one of these talents. Since nearly all children are above average in at least one of these talents, nearly all children are potentially gifted. The incidence of giftedness, i.e., the size of the "talent pool", is restricted only by the definition used to describe the talent and the instrument used to measure it.

Block and Dworkin (1976) similarly take issue with the use of IQ tests to measure intelligence and argue that they measure other abilities more effectively and accurately than they do intelligence. As they argue,

> "People with equal intelligence may differ in knowledge and skills because of differential access to cultural information due to difference in vocabulary and knowledge; presence of books, magazines, and newspapers in the home and the quality of local schools; differences in parental encouragement of intellectual and scholastic activities; desire to appear cultured or to do well in school, anxiety about culture or school; attentiveness ... but insofar as IQ reflects the differences in opportunity, interest and

> so on, over and above intelligence, the tests measure opportunity, interest and so on, rather than intelligence" (1976:450).

Kamin (1974) too sees intelligence tests not only as inappropriate and inadequate for the measurement of intelligence but also as "instruments of oppression of the poor -- dressed in the trappings of science rather than politics." He sees them as discriminatory and culturally biased, ultimately serving the purpose of sorting the advantaged from the disadvantaged. As for whether or not intellectual capacities are inherited ...

> "There may well be genetically determined differences among people in their cognitive and intellectual capacities. In demonstrating this, psychologists would have to develop test instruments that provide adequate measures of such capacities. They have not as yet done this; they have only developed IQ tests" (1976:224).

Criticisms waged against the use of IQ tests to measure intelligence and to identify giftedness give rise to numerous protestations that gifted programs are elitist. Weiler (1981) for example, sees gifted programs giving already advantaged children more advantages and treating them as `privileged aristocrats'. She is strongly opposed to California's MGM Program (Mentally Gifted Minors) which she sees as creating a "caste system" based on ability and branding "children in the name of efficiency", the consequence being that "doors are open or closed on the basis of that brand" (1981:86). Kane (1978) also sees gifted programs as elitist but sees the formal recognition of gifted and talented students with its "promise of great things to come" as creating a set of expectations that these students deserve "a special place of rank and prestige" once they have completed their schooling. As far as he is concerned, this "constitutes a serious form of myopic discrimination and incalcuable waste of untapped human resources" (1979:27).

Robinson (1977), on the other hand, looks beyond the IQ and its questionable sorting practices and challenges the entire "myth of the giftedness syndrome". According to this myth, gifted populations are a relatively homogeneous group who function in qualitatively different ways from average learners and therefore require special classes. He argues that there is no evidence whatsoever to support these assumptions and questions the existence of a "reasonable and coherent category of individuals who should be labeled `gifted'", explaining that he is "more than anything else questioning the validity of the general factor of intelligence" (1977:4). In the majority of cases, individuals have specialized talents and seldom are capable in all ability areas. This is evidenced in the case of a gifted mathematician having mediocre writing abilities or conversely, a gifted writer having mediocre mathematical abilities. As far as the "myth of the qualitatively different gifted learner" is concerned, he feels that there may be some differences between average and gifted learners but that so far, the only documented difference is their faster rate of development. Giftedness, then, may be mere precocity and if that is the case, gifted programs are unnecessary. All that is required is a more flexible and personalized approach to instruction so that students can progress at their own pace.

The mythical nature of giftedness is further explored by a number of macrosociologists who look beyond the use, and abuse, of the IQ to the role it plays in the social order. For them, intelligence, and hence, giftedness, is a social construct, an ideology created and perpetuated by the dominant classes in order to justify and legitimize their status and power vis à vis the lower classes. The behaviours which are seen as constituting intelligent and/or "worthwhile behaviour" are those which they themselves manifest (Henderson 1976:147). There is no conscious or deliberate attempt by the dominant strata to subordinate the lower classes but because they are in a position to generate and control symbolic meanings, their definitions are accepted and legitimized as valid and absolute. These definitions ultimately serve two functions: (1) a mechanism of social control and (2) an allocator and legitimator of high status positions. This means that individuals demonstrating the abilities and modes of behaviour valued and preferred by the dominant classes are the ones for whom mobility into elite positions is accessible. In other words, invisible ascriptive processes are operational in the selection and allocation functions although visibly, IQ scores and academic success seem to determine social mobility and one's place in the social hierarchy (see Bowles and Gintis 1972, 1976).

This position is more fully developed by Bourdieu (1966, 1970, 1977) who extends these arguments within the context of his theory of cultural reproduction and with specific reference to the "scholastically excellent". As he sees it, the "scholastic cult of precocity" is an ideology perpetuated by schools to camouflage the inherent selection procedures performed by the ideology's legitimization with the dominant classes as its major beneficiaries. It is not all dominant classes, however, who are its beneficiaries. Rather it is those proprietary groups who are engaged in the production and consumption of knowledge. Because of their role in the social order, they have both the power and the authority to have their definitions accepted as legitimate, a power which he calls "symbolic violence". He sees this ideology with its manifest forms of gifted behaviours as emerging from a relatively unconscious evolutionary process embedded in a general consensus and tacit acceptance by the populace. This is possible because...

> "... precocity is not seen as increased privilege, but as the clearest manifestation of innate virtues and qualities and natural gifts, since (as we see in the cult of the child prodigy, the extreme form of the Romantic cult of genius), prowess and exploits are all the more likely to be charismatic because, having been achieved at an early age, they seem to owe nothing -- and especially not their precocity -- to training or hot-house techniques. Thus, the value attached to precocity is only one of the ideological mechanisms by which the educational system tends to transform social privileges into natural privileges and not

privileges of birth ... " (1970:346).

Scholastic excellence and/or giftedness, then, is a manifestation of privileged social experience of the children of the dominant classes. Not only do they bring the correct knowledge to school but also the correct modes of behaviour, both of which help define them as brilliant and naturally precocious. The most gifted and successful academic achievers are those possessing the largest amount of "cultural capital" and the least successful are those possessing the least amount. For Bourdieu therefore, giftedness is a function of a set of social and non-cognitive traits appearing to characterize the dominant classes, traits which ultimately assume the greatest value in society.

Benn (1982) essentially agrees with Bourdieu in seeing giftedness as playing a critical role in the selection process for elite positions and in seeing the dominant classes as the major beneficiaries of such selection. Perhaps, however, because of her focus on the British educational system, she sees the ideology being used in a more conscious, manipulative way by the dominant classes. In her article, "The Myth of Giftedness", in which she traces the growth and development of gifted education in Britain, she notes that it emerged at the same time comprehensive schools were sweeping the country and eleven plus examinations were being eliminated, a change which she claims was hardly coincidental. The "sudden creation of the giftedness machine" was a mere replacement for the eleven plus selection procedures except it was even more of a "pervasive and dangerous hidden selection procedure", clouded as it was by vagueness, mystery and myth. As she explains (1982:51),

> "The gifted child is a difficult concept to challenge, since it enjoys a fine public image (one reason it has been misused so easily) and because most of us accept willingly that some children are possessed of extraordinary talent. It is only when we look behind the scenes that we see quite clearly the way "giftedness" has taken the place of the old ability at eleven as the justification for continuing with academic selection."

In order for the "giftedness machine" to be publicly accepted in Britain, especially when RICE (Right to a Comprehensive Education) was successfully campaigning for universal educational rights and common assessment at leaving age, theoretical justification was necessary to convince the public that selecting a small group of students for special educational programs was fair and equitable. Benn cites the following suppositions used for that justification (1982:51),

(1) Gifted programs did not require a divided school system since giftedness could be served in a variety of ways within the comprehensive school.

(2) Gifted programs did not favour any class, gender or race and therefore, were not discriminatory in their identification procedures.

(3) Gifted programs did not require massive testing and did not appear to "threaten anyone or imply those not found gifted were failures".

(4) Gifted students were a small minority and therefore did not create a "creaming" problem for comprehensive schools.

Although she provides no documentation to support her position, she claims that all of these suppositions have been invalidated and that gifted education has successfully created a system "indistinquishable from the old eleven plus system to achieve this." Extra resources, extra programs, more teacher time, smaller classes as well as a social separation from less able children have been offered to select groups of children, provisions which she sees as constituting an elite form of education within a public school setting. Her conclusion is that gifted education ultimately succeeds in performing the same function of the eleven plus examinations, and that giftedness, by virtue of its vague and elastic nature and inherent class links, is simply a "myth".

Both Bourdieu and Benn, therefore, see giftedness as an ideology originating with the dominant classes and camouflaging the inherent selection procedures for access to elite positions. Neither cognitive nor technical skills alone are sufficient for selection. They must be accompanied by the desired and valued gestalt of non-cognitive variables. In this sense, they see schools sponsoring certain students for higher SES positions and granting academic success to these students on the basis of ascriptive characteristics, all of which appear to be incorporated in the notion of giftedness and/or scholastic excellence. The implication of this is that schools, despite their professed belief in universalism and contest mobility (Turner 1964), are, in fact, particularistic. By legitimizing giftedness, they identify and select certain students as gifted and thus, sponsor them for elite positions.

For Benn and Bourdieu, elitism is not simply a referent to the organizational aspects of gifted programming but is one which extends to the very genesis of the concept of giftedness. Thus for them, elitism assumes a broader meaning than that articulated by other critics cited in this section. All of them, however, from their different theoretical and methodological perspectives, agree that gifted programming, as currently operated, is discriminatory in its provision of special programs to a select group of students identified on somewhat arbitrary and limiting criteria. They see gifted programming as playing a critical role in the social selection process and consequently, in the reproduction of social inequalities with the middle and upper classes being the major beneficiaries of such programming.

Opposition to gifted programming, therefore, is directed at the elitist nature underlying a number of different dimensions:

(1) the idea of giftedness itself, one which is originated and perpetuated by the dominant classes in their own best interests

(2) the limiting nature of the concept in that it excludes a large variety of other human abilities and emphasizes only those valued by and characterizing the dominant classes.

(3) the segregationist organizational mode which gives a more individualized and preferred treatment to select students.

(4) the implicit selection function that the concept of giftedness performs for a hierarchical society.

In short, critics see the ideology of elitism underlying the genesis, definition, operationalization and reproductive function of gifted programs and not merely in the inequity of educational opportunities. Their charge of elitism runs deeper. Taken together, their criticisms see the nature of giftedness as problematic and the definition as socially constructed and operationalized in the interests of the dominant classes.

Against this background of debate in support of, and opposition to, programs for gifted and talented students, there are a number of assumptions which both Functionalists and Critical Sociologists make which are themselves problematic. The debate in North America has basically centered on the equality of educational opportunity issue with proponents of gifted programming arguing that programming is democratic in that it provides gifted and talented students with an equal opportunity for an education commensurate with their abilities. Critics, on the other hand, argue that gifted programming is a denial of equal access, opportunity and outcome. Both positions, however, make assumptions that those students who are selected achieve academic success and in turn, occupational success as measured by high SES positions. In this, they assume a direct one to one relationship between schooling and society with gifted programs performing the function of elite selection. Implicit then, is the assumption that the "selection principle" is efficient in its operationalization, firstly in its selection of students and secondly, in its effectiveness in achieving its function. For the meritocrats, this means that the "brightest and the best" are identified, no matter where they are located in society, and then provided with appropriate programming to help them achieve their potentialities for self and society. It also means that these programs, when offered, are successful in ensuring academic success and later, occupational success. In this way, the meritocratic society is realized.

For the critics, on the other hand, the "selection principle" means that selection procedures are biased towards the selection of middle and upper class students possessing the highest degree of "cultural capital" and exclude children of the lower classes. Like the meritocrats, they assume that gifted programs are effective in sponsoring students for access to elite positions. Both the meritocrats and the critics, therefore, see gifted programs as effective mechanisms in the selection of students for higher SES positions.

Unfortunately, much of the debate remains at the rhetorical level and is directed at macro-level concerns. By remaining at this level, it is largely uninformed with respect to what is actually occurring at the micro-level. In North America where educational policies have been relatively egalitarian and where comprehensive schooling has been a mainstay of educational practice, whether or not the elitist charge is as applicable to gifted programming efforts as it is in highly stratified British and French societies with their longstanding tradition of elite educational systems, is questionable. To begin to unravel the elitist - democratic debate regarding the function of gifted programming in Canadian society seems to require answers to two questions:

(1) Which students are actually being identified and selected for gifted programming?

(2) Do those students who are selected for gifted programming succeed academically and later, occupationally?

Having answered these questions, it may be possible to answer the more general concern of whether or not gifted programs are sponsoring students for elite positions and whether or not they perform a social differentiation function. Only then will the relationships between giftedness, schooling and society be clarified.

Embedded within this theoretical framework, the proposed research study seeks to examine these questions through the sub-problems as specified on pages 9 and 10 of Chapter I. It is anticipated that the findings from this study, together with the findings from the past, will provide an indication of which students are being selected for gifted programs and whether or not they are successful academically. It is anticipated also that the findings will be better able to address the issue of sponsorship and the role that giftedness plays in the social reproductive process.

In order to establish the necessary empirical research base, the following section provides a review of the research literature with respect to the social characteristics of gifted students and their respective achievements.

SECTION II

REVIEW OF RESEARCH FINDINGS

D. GIFTEDNESS AND SES

With few exceptions, almost all studies of gifted student populations have found the majority of students to be of high SES origin, primarily from managerial and professional classes. This relationship was first established by Terman (1925, 1941) who found that in his sample of nearly 1500 gifted students...

> "Nearly two-thirds of the occupations of the fathers were classified as professionals, semi-professional, or higher business; less than 1% as unskilled" (1941:222).

Barbe (1953) similarly found a high representation of high SES with 40% from the professional classes, 22.5% from the semi-professional and/or clerical, and the rest from the labouring classes. In another study, Barbe (1964) replicated his findings but also found that highly gifted students (IQ 148+) were more likely to be from the highest SES classes than were moderately gifted students (IQ 120-137).

The persistence of this relationship between giftedness and high SES was demonstrated by other researchers over the years (Durr 1960; Beals and Simmons 1962; Goldberg 1965; Hitchfield 1973; Freeman 1979; Albert 1980: Killian 1983; Van Tassel Baska 1983), permitting the conclusion that gifted children were most frequently found in homes where the parents had achieved better than average socioeconomic status positions with most concentrated in the skilled, managerial and/or professional occupations.

The steadfastness of this relationship has allowed researchers to predict the incidence of giftedness in various SES communities with more affluent communities expected to have larger numbers of gifted students than less affluent communities (See Table 2.1), an expectation realized in the Stanford University community of Palo Alto, California in which 20% of the students were "either identified as academically gifted by State or local criteria, or who just act gifted" (Lundy 1979:526).

TABLE 2.1

APPROXIMATE PROPORTIONS OF SCHOOL POPULATION AT VARIOUS INTELLECTUAL LEVELS*

STANFORD-BINET INTELLECTUAL LEVELS	AVERAGE COMMUNITY	SUPERIOR SES COMMUNITY
IQ above 140	.5 - 1%	2 - 3%
IQ above 130	2 - 4%	6 - 12%
IQ above 125	5 - 7%	15 - 20%
IQ above 120	10 - 12%	30 - 40%
IQ above 115	16 - 20%	45 - 60%

* Source:Gallagher, James, "The Gifted Child in Elementary School". In Dennis and Dennis (eds.), The Intellectually Gifted: An Overview, New York: Grune and Stratton, Inc.,1976, p.121.

Vernon, Adamson & Vernon (1977) argue, however, it would be wrong to assume that all gifted children or those of superior IQ only come from the highest SES classes. They say that because there are more people in the less privileged classes, there will actually be numerically more gifted children in the lower classes than in the professional classes. The absolute number of gifted children may well be more but the relative number having high IQ scores, especially in the gifted range, may not. Lower class children have consistently been found to score lower than middle class children on IQ tests (Boocock 1972; Mercer 1973; Kamin 1973; Gordon 1976), thus, their chances of qualifying for gifted programs on the basis of IQ cut-off scores of 130 or 135 are significantly lower than those of middle class children. Because most IQ tests are highly verbal in nature and measure to a large degree culturally acquired knowledge (Block and Dworkin 1976; Mercer 1973), middle class children, socialized into an "elaborated linguistic code" (Bernstein 1961, 1971, 1973) have the advantage of scoring higher than lower class children who tend to be socialized into a "restricted linguistic code". As soon as students start school, middle class children have the advantage because their linguistic code is consistent with that of the school. Lower class children, on the other hand, have the decided disadvantage, reflected not only in their generally lower academic performance but also in their higher number in resource rooms and special educational programs. Their linguistic code thus results in their being less able than middle class chilren to handle the type of symbolization necessary to score in the gifted range.

Since the majority of gifted students come from professional and/or managerial backgrounds, i.e., occupational levels requiring high levels of education, it appears that the level of education parents have attained may well be the intervening variable between giftedness and SES. According to Bourdieu (1973), precocity and academic success are proportionate to the amount of "cultural capital" bequeathed by the family and not the amount of "economic capital". The amount of "cultural capital" differs within the various occupational groups according to their role in the production and consumption of culture. Those who are the "most culturally privileged", i.e., teachers, professionals, civil servants and public administrators, are the ones most successful in social reproduction (Bourdieu 1973:497), borne out by statistics offered by Jencks (1972), Collins (1979) and Bowles and Gintis (1976). This means that the incidence of "scholastically excellent" children is greater in families headed by teachers, professionals and civil servants than in families headed by industrialists, financiers and businessman. Bernstein (1975) refers to these "cultural capitalists" as the "new middle class" or the "interrupter class", i.e., the educated elite who earn their positions in the occupational structure by way of "marketable skills" and educational credentials. Essentially, they are the "intelligentsia" and/or "displaced persons" in the old occupational hierarchy who, through the dissemination of their ideas and theories, succeed in "interrupting" the traditional system and at the same time, create a place for themselves in the occupational structure, i.e., in the service agencies of symbolic control. To use Bernstein's (1975) terms, they are the "regulators, repairers, diffusers and shapers", i.e., the portion of the middle class strata which has a "direct relationship to the means and forms of cultural reproduction, but only an indirect relationship to the means and forms of production" (Bernstein 1975:127). It is their children who are the beneficiaries of this "cultural capital" and who are more consistently academically and occupationally successful. It is also their children who are more likely to be defined as gifted and/or scholastically excellent.

Implicit is the suggestion that it is the parents' educational level and not their income level that is the determining factor in the incidence of gifted students. Several recent studies of gifted student populations have, in fact, shown that parent levels of education are substantially higher than the national norm, thereby lending support to Bourdieu's hypothesis.

Albert (1980) for one, compared two groups of exceptionally gifted boys -- one group with IQ scores of 150+ and another group with the highest scores in the 1976 Math Talent Search -- and found that both sets of parents had extremely high levels of education although generally, fathers had higher levels of education than mothers. Mothers and fathers of 150+ IQ scorers had a mean of 16.4 and 17.8 years of schooling whereas mothers and fathers of high Math scorers had a mean of 15.6 and 17.4 years of schooling. Over 90% of the boys were living with both parents and the median family SES was above the 98th percentile.

Van Tassel-Baska (1983) similarly found a high relationship between parental levels of education and gifted achievers. In her sample of 1982 Midwest Talent Search finalists (n=187), 76% of the fathers and 64% of the mothers had college degrees and of these, 30% of the fathers and 5% of the mothers had doctorates. Only one father and 3 mothers had less than a high school education.

In a comparative study of gifted and non-gifted high school students, Killian (1983) found that gifted students were of higher SES background than non-gifted students and that their parents had significantly higher levels of education than non-gifted students.

These studies support the notion that the incidence of giftedness, as currently defined, is directly related to the level of education parents have attained. In other words, parents having the highest levels of education are the ones most likely to have gifted children whereas those with the lowest levels of education are the ones least likely to have gifted children. These studies further suggest that the "cultural capitalists", i.e., the ones who have a vested interest in the educational system, invest "cultural capital" in their children with giftedness being one of the by-products of their investment. Leibowitz (1974), in fact, found this to be true, Investment of quality time, interest and involvement in children's education yielded accrued benefits in terms of higher IQ scores...

> "...home investments do increase measured stocks of childhood capital for boys and older girls. A mother's education was significantly related to IQ while the father's was not, thus indicating that home investments rather than wholly genetic factors underlie the relationship " (1974:129).

The more time mothers spent reading to their children, telling them stories and/or doing other school-related activities, the more likely it was their children would have high IQ's. Given this relationship, Norton and Dolman (1982) felt that giftedness, as currently defined, was a function of the time and desire parents had to train and educate their children and not of innate abilities. As they argued (1982: 254) ...

> "...differences in specific abilities do exist between children but our impression is that these differences are due more to the time and desire which parents have to apply the program, rather than to innate differences between the children.... being gifted is primarily a product of the envrionment and, by current definition, is a level of intelligence which can easily be reached by nearly every child... "

The effects of training on measured IQ levels is perhaps best illustrated by the results of Japan's

"Intelligence Education Program" which was specifically designed to stimulate 90 intellectual factors as identified by Guilford's Structure of the Intellect Model (SOI). The results from the training program between April 1968 and April 1976 showed significant change in IQ scores, clearly demonstrating that IQ levels changed and were more or less "elastic" over time (see Table 2.2). Other studies similarly showed that IQ levels changed over time and that scores could be raised with appropriate training although there was some question of the stability of these increased scores (Skeels 1940; Hunt 1969; Feuerstein 1980; et al).

TABLE 2.2 *

THE GROWTH OF INTELLIGENCE IN TERMS OF IQ
TESTED WITH THE BINET METHOD

AGE	# OF CHILDREN	AVERAGE IQ WHEN ADMITTED	AVERAGE IQ AFTER I YEAR	GROWTH
2	28	126.4	146.9	+20.5
3	19	133.7	149.8	+16.1
4	17	136.5	151.3	+15.8
5	16	139.2	154.5	+15.3
6	10	133.7	148.4	+14.7
7-9	12	142.0	156.3	+14.3
2-9	102	135.3	151.2	+15.9

SOURCE: Chiba, Akira, "Japan's Programs for Gifted and Talented Education". In Kramer, Alan (ed.) Gifted Children: Challenging Their Potential, New York: World Council for Gifted and Talented Children, 1981, pp. 112 - 115.

Miller (1979) suggests that another reason high SES students are more likely to be found in gifted programs than are low SES students is because their parents are familiar with the educational system and more influential in demanding appropriate programming. Their knowledge, combined with their political acumen, makes them more effective in obtaining special programming for their children and in having more of them identified as gifted.

In summary, the literature shows that the majority of gifted students are of high SES origin and are predominantly from the professional and/or managerial classes, occupational groups tending to have the highest educational levels as well as the highest income levels. This relationship was established as early as the 1950's, De Haan and Havinghurst (1957:7-8) concluding at that time that "talent and giftedness, as ordinarily defined, were heavily concentrated in urban, white middle class groups". Findings from recent studies show this relationship has not weakened and perhaps, has even intensified. As long as giftedness remains tied to IQ scores, it is unlikely this relationship will change.

E. ACADEMIC/SCHOLASTIC ACHIEVEMENT

By definition, gifted students are the highest achievers on IQ and achievement tests, measures which tend to be good predictors of school success. As would be expected, gifted students have been found to be superior achievers in school, a finding originating with Terman but replicated by many others in subsequent years. Terman (1925) found that gifted students, compared to average students in the elementary and high school grades, obtained higher marks, were more positive towards school and excelled in their ability to read. They participated in more extracurricular activities and had more hobbies and out-of-school interests. Moreover, they were characterized by emotional stability, social adjustment and a drive to succeed.

Barbe (1964) similarly found they had superior achievement with scores "sufficiently above their actual grade placement to indicate the virtual absence of so-called underachievement in both the highly gifted and the moderately gifted groups" (1964:73). Females achieved better than males in the primary grades but by grade 6, both were achieving equally well. Since few were in gifted programs, he felt their achievement had not been affected by being placed in heterogeneous groupings and perhaps had even been encouraged "up through the sixth grade." Other studies replicated these basic findings (Abraham 1957; Drews 1957; Strang 1956; Beals and Simmons 1962; Goldberg 1965; Klopoushak 1967).

In a more recent study, one particularly relevant to the current study, Tremaine (1979) compared the attitudes and achievements of high school students who had participated in gifted programs with those who had not and found essentially that "enrolled gifted" were higher achievers than "unenrolled gifted". "Enrolled gifted" (N=74) were students who had taken a special course in high school for one or more years whereas "unenrolled gifted" (N=59) were those who did not take this special course option. In the first part of her study, she analyzed their IQ scores, Grade Point Averages (GPA's), SAT scores as well as the number of scholarships and honors they had received. In the second part of her study, she extended the analysis to 289 gifted high school students in 3 other high schools to find out what their attitudes were towards "education, society, peer groups, and the self". She surveyed their school and community activities as well as their vocational and educational goals. Questionnaires were mailed to students but the return rate was low. Only 60 "enrolled" and 41 "unenrolled gifted" responded.

Her findings were as follows:

(1) There was no difference in IQ between enrolled gifted and unenrolled gifted. "Mean IQ of the enrolled was 138.1 compared to 138.2 for the unenrolled. The median IQ was 135 for the enrolled, 137 for the unenrolled."

(2) GPA's of enrolled gifted were on the average .5 higher than unenrolled gifted with the mean GPA for enrolled gifted being 3.7 compared to 3.2 for unenrolled gifted (4 being the highest GPA attainable). Approximately 3 times more enrolled gifted than unenrolled gifted had GPA's above 3.5, indicating extremely high achievement by enrolled gifted. 33.9% (or 20/59) of the total unenrolled gifted compared to 90.5% (or 67/74) of enrolled gifted had GPA's above 3.5, a significant achievement differential.

(3) Enrolled gifted were more likely to take more advanced classes, i.e., courses recommended for college but not required, than unenrolled gifted. Approximately 60% of the unenrolled gifted compared to 4% enrolled gifted did not take any advanced classes. Tremaine indicated that this finding was important because "it reveals that, not only do the enrolled gifted have higher average GPA's but also that these grades were earned in more difficult and demanding academic courses." (1979:503)

(4) Verbal and Math SAT scores for enrolled gifted were higher by 53.9 and 79.9 points respectively than

those of unenrolled gifted. Tremaine concluded, however, that these differences in SAT scores could not be attributed solely to motivation. As she said,

> "It could be theorized that motivation alone was the cause of these significant differences in GPA and test scores, but a study of student performance at schools which offered no special gifted progrmas did not bear this out. The programless schools should contain motivated gifted students whose achievement would be similar to that of other motivated gifted, if motivation were the sole cause of differences. Yet the achievements of the gifted at programless schools closely matched the achievement of the unenrolled gifted at schools with programs. These data strongly suggest that the cause of differences in achievement and performance can be attributed to the programs themselves" (1979:504).

(5) Significantly more enrolled gifted won scholarships and awards with only 13.3% of the enrolled not receiving any type of award compared to 41.5% of the unenrolled.

Tremaine concluded from the first part of the study that participation in gifted programs was "indeed worth it" and that programs definitely had positive effects since these students' GPA and SAT scores were higher than those students not participating in gifted programs. Whether or not a .5 difference in GPA means constitutes a substantial difference between groups is questionable; however, it is obvious that "enrolled gifted" were higher achievers than "unenrolled gifted". Part of the explanation lay in the fact that proportionately more "enrolled gifted" (71.7%) than "unenrolled gifted" students (39.1%) were planning to go to university and therefore needed good grades in order to be admitted.

In the second part of the study in which she analyzed the questionnaire sent to gifted students, she found the following:

(6) 71.7% of the enrolled gifted compared to 39.1% of the unenrolled gifted had definite 4 year college or university plans. There were approximately similar porportions expressing community college plans (24% - 26%) and only 5% enrolled gifted compared to 26.8% unenrolled gifted planned to go to work immediately after high school. She found also that there was little variance in professional goals between the two groups with careers in science being the most popular choice (30% enrolled gifted compared to 15% unenrolled gifted),and medicine being the next popular choice. Slightly more than 25% of both groups, however, were unsure of their future career.

(7) Enrolled gifted appeared to be more positive towards school.

(8) Enrolled gifted students were more involved in school activities than unenrolled gifted although there were no apparent differences in community activities.

> "In summary, student responses to the four items on school and community activities indicate that the enrolled engage in significantly more activities than the unenrolled but do not differ in the number of hours spent per week. The two groups are about equally involved in community activities and spend approximately the same amount of time on them. Thus, the argument that participating in gifted programs makes students less able or willing to participate in extra-curricular activities is contradicted by the results of this portion of the study" (1979:511).

(9) Enrolled gifted tended to "evaluate their teacher higher than the unenrolled"; however, this conclusion was made on on the basis of 3 questions -- one asking them to rank their teachers compared to teachers at other schools, another asking them to list the vocation of the people who were most influential and the last to rate teachers in class and out of class as sources of information.

(10) Sources of friendship and assessment of those friendships appeared to be similar for both enrolled and unenrolled gifted students indicating a general satisfaction with school and peer relationships.

Essentially then, Tremaine's findings merely confirmed those of the past showing the majority of high IQ students to be academically successful.

F. RELATIVE ACADEMIC STRENGTHS

With respect to the academic strengths of gifted students, a review of the literature shows fairly conclusively that gifted students excel in verbal abilities and in subjects requiring strong communication skills. Terman (1925) found that gifted students preferred and excelled in "subjects requiring abstract thought," finding them markedly superior in history, debating, composition, and literature but finding them similar to average students in athletics, art, penmanship and manual dexterity. He also found that within-group performance on the SAT showed the greatest superiority in language use, followed by reading, spelling and then math although between-group performance was consistently superior to non-gifted age peers. In essence then, their strongest subjects were those requiring language skills and their weakest subjects were those requiring computational skills. This was not surprising given the fact they had been identified on the basis of the Stanford Binet IQ test, a highly verbal test.

Gallagher and Crowder (1957) replicated this finding. They administered the Stanford Achievement Tests to highly gifted students (IQ 150+) and found Paragraph Meaning subtest scores were four grades above age level, Word meaning subtest scores three and a half grades above age level, Arithmetic Reasoning subtest scores two grades above and arithmetic computation scores less than one grade above age level. Social Studies and Science achievements parallelled their high reading achievement. Thus, relative to their own achievements, highly gifted students were strongest in subjects requiring reading abilities and weakest in mathematics. Gallagher (1965:33) explained this differential in the following way ...

> "Their relatively low computation score can probably be accounted for by the fact that the test itself is developed on a vertical basis with a few problems in addition, another few in subtraction, and so on, to briefly cover each of the major arithmetic operations. Since these children were given, at the most, horizontal enrichment in arithmetic, they would not be expected to perform on those processes not covered at their grade level. Even the most gifted child would be hard pressed to learn how to do long division unless someone spent a little time explaining it to him."

Jensen (1973) similarly found verbal abilities of grade five gifted students higher than those of their average peers. He found significant differences in 38 of the 147 comparisons in language fluency, grammatical control and function. Namy (1967) found the gifted (those having a mean IQ of 126) and pseudogifted (those misdiagnosed as gifted by their teachers and having a mean IQ of 110) performed equally well on WISC coding and arithmetic subtests but that the gifted outperformed the pseudogifted on the verbal sub-test. English was the only school subject in which the pseudogifted were significantly lower than the gifted. In other words, the gifted performed substantially higher only on tests and/or subjects requiring verbal fluency .

Kincaid (1969) found this to be true for his sample of highly gifted students (n=561). Reading scores were considerably above average but a substantial number were achieving average or below average in science, math and social studies.

Studies examining the comparative achievements of gifted, average and mentally retarded students on the verbal and non-verbal batteries on IQ tests showed similar verbal strengths for gifted students. Gallagher and Lucito (1960) found gifted students were strongest on verbal tasks and mentally retarded on non-verbal tasks. Average students showed no characteristic pattern. Thompson and Finley (1962) found the same pattern of performance for gifted students. They were highest on verbal batteries and weakest on non-verbal batteries. The reverse was true for mentally retarded students. Therefore, relative to their own abilities, gifted students scored higher on verbal batteries than they did on non-verbal (visual/perceptual). Few studies controlled for SES but those that did found a relationship between verbal strengths and SES. Frierson (1965) for one, found that high SES gifted students scored higher on verbal tasks than lower SES gifted children although gifted children, in general, scored higher than average children. Bonsall and Stefflre (1955) found that when SES was controlled, differences in verbal achievement between gifted and average students tended to disappear.

G. POST SECONDARY FOLLOW-UP STUDIES

Follow-up studies of gifted students consistently show they remain superior achievers throughout life. Terman and Oden (1959) followed-up the original group of Terman's 1500 gifted students and found they continued to achieve in adulthood although fewer women than men achieved high levels of prominence and productivity. The most successful came from families of high SES and educational background, ranked higher in volitional, intellectual, moral and social traits and were more confident, persevering and goal-directed. Twice as many successful as unsuccessful gifted students completed college and fewer had social or emotional problems. Although Terman had been somewhat disappointed with the IQ scores of some of the students in his sample, i.e., those in the 120 - 140 IQ range, he found they turned out to be among his most "distinquished talents" (Miles 1960:52). This led to the conclusion that a relatively moderate IQ rating, combined with "other necessary and desirable skills, may be sufficient for high achievement in many other, often equally important areas" although generally, the highest IQ scores selected those who ultimately made "their mark in academic and intellectual pursuits." According to Gallagher (1965:28), Terman and Oden's follow-up studies "put an end in professional circles to the myths about gifted (high IQ) children not achieving in adulthood."

Shechtman (1960) followed - up a group of 40 gifted females (IQ scores of 135+ on the Stanford-Binet) and compared them with a group of average ability females (IQ scores of 90 - 115). She found gifted females were of higher SES, primarily of professional and/or business background, and that their parents had higher educational levels than the controls. She also found they were consistently superior achievers in high school and university, the majority having been honors students. Though almost all women worked before marriage, the gifted women were employed in higher level occupations, their jobs differing significantly in that they required a "high level of general intelligence", "higher degree of verbal skill" and "greater ability to handle numbers" (Shechtman 1960:151). The average women were more likely to hold clerical positions and none held jobs surpassing those of gifted women. These findings were expected given the fact gifted women were those scoring 135+ on the Stanford Binet, a highly verbal IQ test -- "a test recognized as depending heavily on verbal skill and designed specifically to assist in predicting potentiality for school achievement" (1960:154).

Dugan (1960) similarly found that high ability students, i.e., those scoring above the 80th percentile on the American Council on Education Psychological Examination, were academically successful and maintained superior achievement in college. His other findings were as follows:

(1) 80% high ability males and 70% high ability females went to university compared to approximately a third of other high school graduates. Whereas 90% high ability high achieving students stayed in college for at least 2 years, 40% high ability low achieving did so with "six out of ten of the high ability low achievers who dropped out before completing this amount of work."

(2) Males and females were equally represented in the high ability group (n=233).

(3) There was a greater proportion of males than females in the high ability, low achieving group.

(4) High achievers had more definite vocational plans than low achievers.

(5) Males tended to take more math and science courses than females although high ability males and females took more advanced math and science classes than less able students.

In another but fairly recent study designed to compare educational and occupational attainments of gifted individuals with those in Terman's sample, Powell (1983) obtained a sample of 1,316 adults ranging in age from 20 to 70 from the MENSA membership roster, a club for individuals having IQ's of 140+. Of this sample, 810 (412 F/387 M) responded to his questionnaire. Of these, 784 were white, 4 were Negro, 4 American Indian, 4 Latin American and 14 did not state their ethnic/racial origin. By comparing their educational and occupational attainments to those of the general population, he found that ...

(1) Four and one-half times as many Mensans completed 5 or more years of univeristy as the general population (based on 1976 statistics).

(2) Three times as many Mensans completed one to four years of college compared to the general population.

(3) Twelve times as many members of the general population completed 4 years of high school or less compared to Mensans.

(4) Out of the 144 in the 40 - 49 age group, over 85% received college education and attained professional and/or white collar jobs.

He concluded that this group of Mensans surpassed the educational and occupational attainments (see Table 2.3) of

TABLE 2.3 *

COMPARATIVE EDUCATIONAL AND OCCUPATIONAL ATTAINMENTS OF MENSANS AND TERMAN'S GIFTED

	EDUCATIONAL ATTAINMENT YEARS OF SCHOOLING COMPLETED				OCCUPATIONAL ATTAINMENT OCCUPATIONAL CATEGORY			
SAMPLE	4 YEARS OF HIGH SCHOOL OR LESS	1 - 4 YEARS OF COLLEGE	5 YEARS OR MORE COLLEGE	N	UNEMPLOYED	BLUE COLLAR JOBS	PROFESSIONAL WHITE COLLAR	N
TERMAN'S (AVERAGE AGE 45)	152 (10.3%)	682 (46.4%)	636 (43.3%)	1470	2 (.2%)	117 (11.6%)	893 (88.2%)	1012
MENSANS (AGES 40 - 49)	9 (6.3%)	52 (36.1%)	83 (57.6%)	144	6 (4.8%)	3 (2.4%)	117 (92.9%)	126
GENERAL POPULATION (IN 1000'S)	17,730 (75.6%)	2,744 (11.7%)	2,978 (12.7%)	23,452	7,288 (7.7%)	43,785 (46.2%)	43,700 (46.1%)	94,773

*SOURCE: Powell, Philip, Educational and Occupational Attainments in Two Intellectually Gifted Samples', *Gifted Child Quarterly*, 27:73-76, Spring 1983.

both the general population and of Terman's group. More Mensans than "Termites" had graduate level training although more Mensans than "Termites" were unemployed. Powell suggested this difference was probably due to two factors: (1) selection bias and (2) historical factors. He felt it was difficult to know the psychological motivation of either group in participating in the follow-up study and felt that in part, self-selection may have biased the findings.

Secondly, he felt that the increasing importance of education combined with the fact that the Mensans were of college age at the time America was entering a "boom economy", encouraged individuals to obtain more advanced levels of education. Given these two factors, he felt it was difficult to know the extent to which the Mensans or Termites were representative of gifted populations.

In a recent follow-up study of Canadian gifted high school students (n=49), Gelman and MacLean (1974) found that almost all were academically and occupationally successful. Only one student experienced academic failure in high school whereas over 1/3 had attained some form of academic recognition. Most had been actively involved in school and/or community organizations and had occupied various leadership positions within them. With respect to the level of post secondary achievement, almost all (97%) had attended university, 2/3 of whom had received at least one degree. At the time the study was conducted, 1/3 were still in University, the majority of whom were working on graduate degrees.

Together, these studies show that the majority of gifted students are academically and occupationally successful and in this sense, appear to fulfil their promise.

H. PERSONALITY AND ATTITUDINAL VARIABLES

With respect to the literature on personality and attitudinal variables, there is little to suggest that gifted students are not "fulfilled". The research shows that gifted children, as currently defined, are superior to non-gifted children in terms of social, emotional and personal characteristics. Terman (1925, 1954) found they were characterized by such traits as emotional stability, social adjustment, drive to succeed, attractiveness, alertness, attentiveness, curiousity, and friendliness. He also found they had lower rates of suicide and insanity, married later in life and generally had better marriages than the generality.

Cox (1926) also found that the geniuses in her sample were distinquished by their strength of character, self-confidence, persistence, motivation, effort and drive -- all suggestive of well adjusted, high achieving individuals. Later studies replicated these basic findings (Gallagher and Crowder, 1957; Warren and Heist, 1960 et al). In studies where SES was controlled (Smith 1962, Bonsall and Stefflre, 1955), there appeared to be little or no difference between gifted and average students in terms of personal adjustment, Bonsall and Stefflre concluding that, "It is possible that Terman, in describing the multiple superiority of the gifted child is simply describing children from the upper socioeconomic levels."

Highly gifted students (IQ scores of 160+), on the other hand, were more likely to experience adjustment problems than moderately gifted students although their rarity prevented such generalization (Hollingsworth, 1942; Terman and Oden, 1959; Gallagher and Crowder, 1957)

Related to the superior emotional and personal characteristics of gifted students was the finding they were more likely to be popular and socially accepted than children of lower ability. Martyn (1957) found this to be especially true at the elementary level although at the junior and senior high school level, their mean acceptance score "was not significantly higher than the average of their almost 900 classmates." Part of this might have been due to the fact that during high school, brilliance was not highly valued and gifted students might have deliberately masked their abilities to gain social acceptance and peer approval, a suggestion supported by Coleman (1960) and Tannenbaum (1962). Coleman (1960) found that boys wanted to be remembered "as athletic stars" rather than as popular or brilliant students whereas females wanted to be remembered as popular and/or social leaders. He also found that in schools where academic brilliance was not valued and held in low esteem, high IQ students were not as likely to earn the highest grades with many choosing mediocrity in favour of peer acceptance. Coleman concluded that students who earned the highest grades were not necessarily the ones with the highest IQ's but rather the ones with the highest determination to risk peer rejection. Bright females were even more in a double bind than males because of the conflicting values with which they were presented...

> "These results, together with the earlier ones which show that the girls have better grades than boys, suggest the peculiar dilemma of the girl: She is pushed toward doing well in school by her allegiance to parents and teachers; but if she wants dates and popularity, she is constrained from going all out scholastically. As a consequence, many of the brightest girls manage to hide their brightness, letting somewhat less intelligent girls be named the best students" (1960:49-50).

Tannenbaum (1962) similarly found high school students devalued intelligence relative to athletic prowess. Grade 11 students (n=615) were asked to rank eight different stimulus characters, each of whom was a composite of three basic traits -- intelligence, athletic ability and studiousness. In their rankings, athletic abilities ranked above all others. Though brilliance was valued, it was only in combination with athletic abilities that it was acceptable. Thus, brilliant, athletic boys who were non-studious were the most valued followed by average, athletic non-studious boys. The brilliant, studious and nonathletic boys were least likely to gain social acceptance. Similar to Coleman (1960), Tannenbaum concluded that academic success was sought only by those bright individuals who were willing to risk social approval and popularity unless they attended a school in which academic achievement was also highly valued. Other values took precedence over school work...

> "The group of teenagers judging the traits reacted positively to those revealing a love of fun, the ability to socialize harmoniously with peers, moderate success at school, good physical health, and personal attractiveness. They tended to belittle the traits denoting excessive devotion to school work, inability to achieve good social rapport with one's own and opposite sex, and the possession of certain deviant personal habits" (Tannenbaum 1962:35).

Drews (1963)[3] explored the adolescent society further and had 500 superior high school students describe and categorize themselves as either (1) High Achieving Studious; (2) Creative Intellectual; (3) Social Leader or (4) Rebel. Based on their descriptions, the following profiles emerged.

(1) HIGH-ACHIEVING STUDIOUS

These were students who conformed, studied, obtained high marks and "played by the rules". They were ones who thought "hard work (was) a good thing in and of itself" and who had "a lot of what the sociologists call Protestant Ethic" (1963:107). They were mostly female with a ratio of 2 to 1 and were "deadly serious". As Drews summarized, they would be "excellent employees. They may not scintillate at parties but they will shine on their monthly reports"

(1963:108).

(2) "CREATIVE INTELLECTUALS"

These students were essentially the non-conformists who preferred to adhere to their own standards and principles rather than adhere to those of their teachers or peers. They were not social leaders nor did they want to be. They were highly individualistic students and were "rather prickly young people who ask(ed) below-the surface or, for some teachers, below-the belt questions" (1963:110). They were non-dogmatic, skeptical, creative, independent and "had more social conscience than social inclination." In general, their grades were lower than "high achievers" or "social leaders" but their achievement test scores were high.

(3) SOCIAL LEADERS

These were students who "shone in personal or social relationships". They were attractive, well groomed, popular, extremely active in school clubs and sports, active in community affairs and loved the "good life". They conformed more to "teen-age mores than to teachers' expectations" and though their grades were good, they were not the best because they valued their social life more. Their basic values were "materialistic, rounded out with hedonism...probably will become corporation executives, doctors or lawyers" (Drews, 1963:109).

(4) REBELS

These were most rare and could be termed "individualistic creative nonintellectuals". They were true non-conformists but unlike "creative intellectuals", there were no social or intellectual reasons for their non-conformity. It was "only a means for showing their dislike for regimentation at all levels." They were extremely low achievers and were neither leaders nor followers. They measured low on social responsibility, tested higher on non-verbal than verbal IQ sub-tests and high on delinquency scales. Interestingly enough, they were primarily lower class males whose familes tended to be "outsiders" and who themselves devalued "things either social or intellectual" (Drews, 1963:112).

Drews depicted these four "faces of adolescence" graphically not only to illustrate their position relative to each other but also to show the direction of possible change. She felt that the possibility for change was the greatest for "Rebels" than for any other group (see figure below).

More Conformity

Concern with Non-Ideas	Social Leader	High-Achieving Studious	Concern with Ideas
	Rebel	Creative Intellectual	

Less Conformity

From the review of the literature, it is apparent that gifted students tend to be well adjusted, emotionally stable, confident and positive about themselves, school and life in general. They also tend to be popular although at the high school level, their popularity is not assured unless they are socially and athletically adept. Their grades are often lower than expected because they "exchange" high grades for peer approval, particularly at the high school level when peer influences are at their strongest. Of the four adolescent "types" (Drews, 1963), "rebels" and "creative intellectuals" are the ones most likely to obtain the lowest grades because of their non-conformity. Therefore, at the high school level, high achievement is a function of the pervasive value system and the student's perceived role vis à vis the adolescent society.

I. DEBATE OVER GIFTEDNESS AND TALENT LOSS

Though the prevention of talent loss is one of the major reasons gifted programs are considered necessary, a review of the literature shows that the majority of gifted students are academically and occupationally successful and that whatever talent loss occurs, it is based on estimates and expectations derived from IQ test scores rather than from statistics of actual talent loss. That is to say, talent loss is inferred from a variety of sources which are predicated upon assumptions about the relationship between giftedness, achievement and IQ. These sources include:

(1) Talent Loss by Statistical Inference
(2) Talent Loss by Dropout
(3) Talent Loss by Underachievement

(1) TALENT LOSS BY STATISTICAL INFERENCE

The first type of talent loss originates from statistical inference based on surveys of gifted programs and the number of students being served. Once these numbers are obtained, they are compared with the expected incidence of gifted students derived from the normal distribution curve. The difference between the number being served and the number estimated as that which should be served is then interpreted as equalling the degree of talent loss and educational neglect.

Typical of arguments made on the basis of this type of inference are as follows:

"Based upon the revised Stanford Binet scale

> and assuming a total school population of thirty million , the upper 1 per cent of that population (which percentage is clearly a conservative delimitation of the gifted group) would total 300,000 gifted children. Setting the lower limit at 130 IQ, 4% of the school population or 1,200,000 may classified as gifted. And if, as in Cleveland, the cutting off point is set at 125 IQ, 6 1/2 percent would be included. This would mean that there are 1,950,000 gifted children in the United States.... the National Manpower Council and the National Education Association estimate that 400,000 bright children each year are being denied a chance to develop their potential" (Bish 1963:14).

> "Contrary to the belief that `genius will out' and that smart kids get by on their own, the Office of Education reported to Congress in 1971 that more than 2 million above average minds are languishing from want of attention in the country's elementary and high schools. The study found that services for the gifted and talented enjoy very low priority at the federal, state and most local levels of government and educational administration, that one-third or more of the known gifted receive no special instruction and that, as a result these high potential youngsters perform far below their capacity" (Tomasson 1974:106).

Whether or not the small number of special programs for gifted students constitutes an educational neglect wherein students are "languishing from want of attention" is debatable. Gifted students may well be receiving appropriate instruction through a variety of enrichment strategies in the regular classroom program and may not be languishing nor neglected as Tomasson (1974) suggests.

Nonetheless, this type of inference is still being made with proponents arguing that because there are not many programs in existence, gifted and talented students are being neglected and consequently underachieving.

(2) TALENT LOSS BY DROPOUT

The second type of talent loss is that of the gifted dropout, an idea originating during the post war economic boom when there was a shortage of trained manpower and when economists and educators believed in the Human Capital Theory. Statements like those of Impellizzerri (1961) and Wolfe (1954), Commissioner of Advanced Training and Human Resources were commonplace...

> "By 1975 we will probably need the services of twice as many engineers and scientists for example, as we had in 1958. To supply these educated people, teachers, the largest professional group in the country will have to increase in number"(Impellizzerri 1961:1).
>
> "College graduating classes could be twice as large as they currently are, and with no loss of quality. The potential supply gets drained off, in large or small amounts, all the way through the educational system. Practically all potentially good college students enter, and most of them finish high school, but after high school the loss is large. Fewer than half of the upper 25% of all high school graduates ever earn college degrees; only 6 out of 10 of the top 5 percent do. Society fails to secure the full benefit of many of its brightest youth because they do not secure the education that would enable them to work at the levels for which they are potentially qualified" (Wolfe 1954).

Because of the need for trained manpower during the 1950's and 1960's to meet the demands of a rapidly expanding economy, it was expected that students having IQ's of 120+ were capable not only of college work but also of meeting this great social need. But as indicated in A Policy for Scientific and Professional Manpower (1953), "half of the persons with an A.G.C.T.(Army General Classification Test) of 120 or higher (did) not enter college and only about one-third of them graduate(d)." Wolfe (1960) found that of the high school students who ranked in the top third in intellectual ability, 40% did not enter college. The Project Talent follow-up of approximately 300,000 high school students across the States showed only 49% of the males and 35% of the females actually attended university although much larger percentages had indicated plans to attend (Flanagan et al, 1962). It was generalized from these findings that high ability students were "wasted" for self and society because they did not go on to college.

It was also from these findings that the notion of gifted dropouts originated; however, the majority of these dropped out between high school and university, and not between grades during high school. They were referred to as dropouts and underachievers because their IQ scores indicated they were capable of achieving high levels of education and in turn, high occupational positions which would contribute to the efficiency and productivity of the nation. Since they failed to realize society's expectations by not going to college, they became America's "wasted resources" and consequently, its dropouts.

Examining university participation rates, research has shown that high SES students were more likely to go to college than low SES students (Wolfe 1954; De Haan and

Havighurst, 1957, 1961; Porter, 1965; Erickson and Brookover, 1975) and that urban, white males were more likely to go to college than females, racial and ethnic minorities. However, university attendance, in general, has increased substantially since then (Anisef and Okihiro, 1982) and female participation rates have more than doubled (Anisef, Paasche and Turrittin 1980), making it highly unlikely that these so-called dropout rates are as high today as they were in the 1950's and 1960's. Therefore, statistics indicating the extent of talent loss derived from college participation rates during the 1950's and 1960's must be interpreted cautiously and not extended to today's gifted student populations without more research.

With respect to gifted dropouts at the high school level, Green (1962:390) found in a state-wide survey in Iowa that approximately 3.5% of the dropouts were "talented", i.e., IQ scores >120, although 17.6% (29/165) of the "talented" population dropped out of school. Two-thirds were female, most of whom were pregnant or planning to get married.

In another study, French (1975:431) found that...

> "8% to 11% of high school dropouts have IQ's of 110 or above. In a comprehensive study of Pennsylvania youth in 1964-65 we found more than 800 high ability dropouts. Nearly 500 had IQ's of 120 and 80 had IQ's of 130 or more."

Exactly how many high ability dropouts there were and what their proportion was relative to the total population was not given. Moreover, high ability referred to a broad range of able students, i.e., those having IQ scores of 110+, and not to a restrictive range of gifted (IQ 130+) students. Since only 80 students had IQ scores of 130+, this meant that approximately 10% of all high ability students in the group of dropouts would have been classified as gifted and that their proportion, relative to the entire dropout population was small. In no way could this proportion be considered disproportionate to other ability groups as was often claimed.

French (1975) found that dropouts differed from persisters primarily in personality characteristics, interests and "family orientation towards school processes". Male dropouts tended to be more frank, uninhibited, happy-go-lucky, assertive, independent, unconventional and rebellious. Female drop-outs were more likely to be pregnant or planning to get married. Those who were not tended to be less socially oriented and more shy and retiring than female persisters. As French concluded, "their personality pattern would indicate reason to suspect proneness to poor social adjustment in junior and senior high school" (1975:431), suggesting that high ability alone did not contribute to a student's dropping out of school. Other factors such as academic difficulties, maladjustment, family conflicts, dislike of school and pregnancy were operational in the student's decision to drop out of school.

Though few studies on gifted dropouts were found, it appears from their limited number that the highest IQ scorers (IQ 130+) were not dropping out of high school in disproportionate numbers, a suggestion also made by Lajoie and Shore (1981) following their review of the literature on dropouts. They concluded that ...

> "The balance of findings on dropouts suggests, at present, that the proportion of gifted dropouts may be average. The most common reasons ascertained for dropping out were perhaps no more applicable to the gifted than to others. On the other hand, a broadened definition of giftedness may affect the result either way. The best estimate may turn out to be that the gifted are at least equally represented among dropouts." (1981:141)

Conclusions, therefore, remain tentative since studies in the past were not rigorous enough to warrant definitive conclusions, plagued as they were by different methodologies, definitions and times during which the drop out occurred . Furthermore, such factors as gender, race, ethnicity and SES were not controlled, thereby making generalizations about gifted dropouts tenuous at best. But if the term "gifted" refers to students scoring >130 on IQ tests and if dropout rates refer to the percentage not completing high school, then on the basis of the existing, albeit limited, research, statements such as "gifted children have been found to experience an unusually high dropout rate" (Crabbe 1978:1) do not appear to have empirical support.

(3) TALENT LOSS BY UNDERACHIEVEMENT

The third type of talent loss is that of underachievement, a term used to describe achievement which is lower than measured IQ scores would predict. In other words, there is an expectation that students should perform at a level consistent with their IQ scores. This means that the higher the IQ, the higher the expectation and conversely, the lower the IQ, the lower the expectation. At the school level, this is usually gauged by performance on standardized achievement tests and teacher made tests with formulas devised to assist teachers and/or other educators in determining whether or not students are performing at levels commensurate with their measured "potential". One such formula is the "AQ" (achievement quotient) originally developed by Franzen in the early 1920's (cited in Anastasi 1982:130) but one which is no longer in use because of its inherent weaknesses and limitations.

$$\text{Achievement Quotient} = \frac{\text{Age score on Achievement Test} \times 100}{\text{Mental Age on IQ}}$$

For students to get 100% or to achieve at maximum, their age score on the achievement test has to equal their mental age score on an IQ test. Thus, a 7 year old child with a mental age of 10 has to achieve at a grade equivalent for a 10 year old in order to achieve at "potential". As Gallagher (1959:44) suggests, however, "at extremely high levels of intellectual ability the absurdity of the AQ becomes quite apparent". He therefore offers another alternative to predict achievement levels, assuming a .67 correlation between reading and IQ:

$$\text{Expected Achievement} = \frac{2 \times \text{Mental Age} + 1 \times \text{Life Age}}{3}$$

Essentially, this means that an 8 year old child having a mental age of 11 is expected to be reading at a grade 5 level, i.e., two grades above grade level. If he is not, then he is underachieving and not performing to potential. However, as Anastasi (1982) suggests, the terms "underachievement" and "overachievement" would be better replaced by the terms "underprediction" and "overprediction" since prediction errors, derivative of technical and statistical limitations, are commonplace.

Underachievement is also measured by performance on teacher-made tests, i.e., regular class performance. Mallis and Heinemann (1979:3) define underachievers as those with "high intellectual or academic potential but whose performance falls in the middle third in scholastic achievement, or worse in the lowest third." In other words, if high IQ students are obtaining only average grades in school, then they are considered to be underachieving. Not only are they expected to score several grades above grade level on standardized achievement tests but they are also expected to obtain honors standing in their classroom work. The problems underlying such expectations are clear and perhaps best illustrated by a comment made by a low achiever ..."I'm not an underachiever. You're an overexpecter".

Over the life cycle of individuals, Passow (1960,1980) sees essentially three types of underachievers: (1) those scoring in the top 10% on IQ tests but whose grades fall below the average in school and/or college; (2) those not attending college and therefore eliminating themselves from areas of specialized talent and (3) those drifting into less specialized occupations, "say the potential research scientist who settles for a gas station job."

In summary, underachievers are variously defined in the literature although all definitions are predicated on expected levels of performance in school and occupational states derived from prediction models based on IQ scores. The underlying meritocratic beliefs surrounding the relationship between IQ, achievement and occupational status are implicit. Given the problematics of IQ scores with their unstable and limiting nature, expectations for achievement based on IQ test scores are similarly problematic. Given the concern, however, with "human capital" and its efficient utilization, underachievement was, and still is, a popular research theme and is perceived to be the major source of talent loss today.

J. CHARACTERISTICS OF UNDERACHIEVERS

The many studies investigating the phenomenon of underachievement have consistently found underachievers to be characterized by similar personality traits although the causes of their underachievement are less definitive and more varied. According to Goldberg (1965:24), these causes are "as diverse as the underachieving youngsters themselves" although the consistency of the findings with respect to their characteristics suggests that similar forces in the environment shape their beliefs and attitudes and consequently, their low achievement.

Walsh (1956) found that underachievers differed from high achievers in that they were more restricted in action -- "unable to express (their) feelings adequately, being criticized, rejected, isolated; and acting defensively, through compliance, evasion and negativism." Given these characteristics, she felt bright underachievers should be placed in an environment freed from pressure if they were to learn more effectively.

Greene (1962) found that female underachievers placed a greater value upon relationships with people than upon ideas, showed a greater disregard for social mores and conventions than high achievers and appeared to have "less deep emotional responses". They also took on more activities than they could successfully handle and tended to lose interest more often in activities they initiated (Greene 1962:204), suggesting they were less persistent than high achievers and less able to manage their time and responsibilities efficiently.

Passow and Goldberg (1958) similarly found underachievers to be less motivated and persistent than high achievers. In examining the academic, social and personal characteristics of high ability students (IQ scores >120), they found significant differences between high achieving (those obtaining a grade 9 GPA >80%) and low achieving (those obtaining GPA's <80%) students on attitude and personality measures. Though underachievers recognized their abilities and potential capabilities, they showed ...

> "...strong resistance to making the necessary effort. The interviews pointed up great differences among the underachievers and suggested that each must be studied as an individual with his own motivations, his own rationalizations, his own system of defenses" (1958:42).

They found no differences in self-appraisal, occupational aspirations, family status, parental educational level or family size although disruptions in the family pattern (through death, separation or divorce) were more common to underachievers than to high achievers. Underachievers expected to pass but did not expect good grades. Following experimental programming, underachievers in the special study group achieved better than their controls although there were still "nonimprovers" in both groups. They found that those who improved scored higher on self-attitude measures whereas nonimprovers showed a greater discrepancy between their "perception of abilities and their wished for abilities status". In other words, they did not see themselves as having the necessary ability to achieve at the desired level and therefore, were unwilling to make the necessary efforts to improve. That is to say, they lacked self-confidence in their ability to achieve their goals even though they knew they were capable.

Torrance (1960) similarly found underachievers lacking in confidence in their ability to succeed. He asked 1215 college freshman to estimate how they would achieve on ability and achievement tests relative to their classmates and chose the "under-evaluators" for further analysis. He found they expressed little interest in extra curricular activities, complained about feeling inferior, lacked self-confidence and had fewer friends. He also found they preferred individual to group activities even though they wanted to be with others. He described this as a "peculiar sense of isolation" because they sought "to communicate with others but refused to receive communication from others". He felt this arose from their refusal to be dependent on others but that this denial resulted in loneliness. As he said, "They refuse support from others but apparently it does not make them strong; it makes them feel weak and doubtful of their ability" (1960:168).

He further found they were confused about their vocational goals and had changed their minds often. They tended to be "cold, intellectually sublimating and striving individuals" who had poor self-concepts and unstable self-identities (1960:169). Torrance concluded that intellectually talented "under-evaluators" were essentially defending a vulnerable ego and "vainly searching for affection". To find this affection, they denied their intellectuality by not wanting to appear different from the norm -- thus, their lower achievement.

Another comparative study of college aged students (Trillingham and Bonsall 1955) found similar personality differences between achievers and underachievers but also found social class differences. Underachievers tended to be from rural or smaller urban communities and their parents were less educated than those of achievers. They tended to be more critical of people and "felt they had been short changed on the good things of life when they were living with their parents" (Trillingham and Bonsall 1955:102). Trillingham and Bonsall concluded that "the underachievement was related to the basic personality matrix and was not a surface phenomenon" although "in terms of actual learning, these students were achieving, even though their grades were low."

In another comparative study, Nason (1958) found that high achievers aspired to higher levels of education, had plans for educational and occupational attainment and had parents who similarly had high expectations for their educational and occupational attainment. Underachievers, on the other hand, had one of these pattern pieces missing. De Haan and Havighurst (1957,1961) similarly found that underachievers tended to come from homes in which there was little encouragement or reinforcement for academic success, the majority of whom were lower class males.

Terman and Oden (1957) found that the majority of underachievers were male, most of whom lacked identification with their fathers. Rimm (1984) found underachievers were less likely to identify with the same sexed parent although there were cases where the identification was strong "if that parent appeared from the child's perspective to also be an underachiever or to be giving the child messages that schoolwork avoidance is acceptable" (Davis and Rimm 1985:283).

In a fairly recent study, Freeman (1979) found that bright underachievers tended to come from homes in which there was considerable stress. Compared to achieving gifted children, they were not as well adjusted, were more unhappy, had lower self-concepts and were generally having more difficulty in school. She also found that parents of underachieving gifted were more upwardly mobile and that as a group, particularly the mothers, were more dissatisfied with their station in life, their own education and their children's schools than parents of achieving gifted were. She found these parents placed considerable pressure on the children to succeed ...

> "The children in this parent-identified group were behaving as `career' gifted children. This implies a licence for difficult behaviour because of the `only to be expected'stress due to the mediocrity of the world... it is possible to think of identified gifted children as those who are caught -- in the same way that some delinquent children are caught -- in a pattern of expected behaviours... there is the possibility that by assigning an exceptional or `sick' role to the child, parents were better able to cope with their own circumstances, which would have been equally disturbing to children of lesser ability... giftedness, whether measured by IQ or by a non-verbal tests, was not found to bring emotional problems... whether the children were recognised as gifted or not. Behavioural indices of giftedness such as

> temper, willfulness, or poor sleep were not found to be valid pointers to giftedness, but rather stress as home" (1979:259).

Essentially, Freeman points to the "expectancy process" as being a major contributor to the pattern of underachievement. The expectation for the child to be "gifted" sets in motion a "self- fulfilling prophecy" wherein the child sees himself as different and/or difficult, and in which stereotypic eccentric behaviours are encouraged and reinforced. This "sick role" has implication for the development of the child's self-concept and peer relationships, both of which ultimately serve to influence the child's achievement in school.

It is commonplace for parents to have unusually high expectations for gifted children and to make unrealistic demands for gifted achievement all the time. Unable to be "gifted" all the time, many children feel inadequate, believing they can never quite "measure up" to their parents' expectations. Consequently, they give up trying. As Mallis and Heinemann (1979:10) explain,

> "Both overinvolved and underinvolved parents unknowingly foster underachievement and make it worse during the crucial preschool period and early grades. The overinvolved parent is a perfectionist with unrealistic standards. No matter how well a child does, this type of parent always finds a way he/she could have done better. Among the underachieving gifted boys, fathers have been found to be authoritarian, demanding and punitive, showing hostility and rejection towards their sons. The underinvolved parent is so permissive as to seem indifferent, uncaring. The child is made responsible for his/her actions before learning how to be, and the pressures created are too great. Neither group of parents described offers

> encouragement or praise for work well done. As a result, the child enters school with a seriously damaged self-concept, unaware of his/her true abilities."

Thus, these unreasonably high expectations for gifted achievement inadvertently serve to create feelings of dependency, hostility and rebelliousness in the children as well as contributing to their low achievment. As Haggard (1957:103) explains, they seem "to be on their way to becoming academic casualities of their parent's excessive ambitions."

It is not only parental expectations, however, that make them particularly vulnerable. Being unusually intense and supersensitive (Clark 1983; Karnes 1982; Khatena 1982), they strive for perfectionism and in so doing, set unreasonably high goals for themselves. When they do not achieve them, they are dissatisfied and feel inadequate, the ultimate effect being they negate their feelings of self worth. The resultant personality traits and accompanying behaviours are the outward manifestation of a low self-concept and as Whitmore (1980:178) found, "All studies comparing the characteristics of the achiever with the underachiever indicate that negative self-concepts are the central trait distinguishing underachievers from those who are achieving commensurate with their ability." These low self-concepts are most often accompanied by some form of "developmental arrest" (Zaffran and Colangelo 1978, 1979), ultimately affecting their level of academic achievement.

In summary then, researchers are agreed that certain ascriptive and behavioural characteristics — typify underachievers, these being (Whitmore, 1980; Karnes, 1982; Khatena,1982):

- negative attitudes towards school and learning
- feelings of parental rejection
- moodiness, depression and rebellion
- poor self esteem
- a tendency to rationalize shortcomings and transfer blame to others
- a proneness to fantasize
- poor interpersonal relationships
- a lack of persistence, susceptibility to distraction and procrastination
- a hostility towards authority figures
- a lack of leadership ability
- a lack of self-discipline and failure to accept responsibility for own actions
- a lack of competitiveness
- a high incidence of emotional problems
- a sensitivity to criticism
- unrealistic goals
- gap between qualitative level of oral and written work
- an independence often focused on self and resistant to influence
- a lack of group/social skills
- an inability to focus and concentrate efforts
- a general hyperactivity
- a lack of concentration and self-direction
- an external locus of control

K. CAUSES OF UNDERACHIEVEMENT

The causes of underachievement, therefore, are complex and multi-factorial, deriving from a combination of psychological, physiological, pedagogical and/or sociological sources (see Whitmore 1980; Gold 1979; Khatena 1972; Davis and Rimm 1985). Seldom is it caused by one factor alone but is usually the result of a complex web of inter and intra-personal interactions with a social environment which does not recognize or attempt to meet the student's individual needs.

PHYSIOLOGICAL causes are usually those associated with some learning disability or handicap such as poor vision, impaired hearing, dyslexia, physical handicap or health problem which, when diagnosed, can be accommodated and/or rectified.

EMOTIONAL AND/OR PSYCHOLOGICAL causes are those which focus on the student's personal relationships with peers and parents and ultimately, on self-concept.

SOCIOLOGICAL causes are those focused on the values, attitudes and beliefs of the social and/or cultural groups to which students belong. If education is devalued in the home and/or peer group as is typical of lower class groups, then it is likely that these children will similarly devalue education since their attitudes and values are consonant with those of their significant others (see Boocock 1972; Mifflen and Mifflen 1982; Meighan 1981 et al).

Although not purely sociological, the way in which children relate to, and identify with, their parents is also seen as a contributing factor of underachievement. Davis and Rimm (1985) see underachievement as essentially a learned behaviour, one which is taught and reinforced by the home and school through family dynamics and interaction patterns. Since children tend to share the attitudes and model the behaviours of the parent with whom they most identify, if the parent is an underachiever and does not stress achievement, the children will similarly tend to underachieve (see also the work of the Symbolic Interactionists, i.e., Mead, 1934, Blumer, 1969, Brookover and Erickson, 1975 et al).

PEDAGOGICAL causes are those focused on the lack of intellectual stimulation and challenge in the school and/or home with much of the recent literature placing the "blame" for low achievement on the school. Such factors as ineffective teaching methods, dull and repetitious curriculum, inflexible teachers, large schools and/or classes, rigid classrooms are all seen as contributing to low achievement. Whitmore (1980:192) found that the particular elements of the classroom environment to which her group of gifted underachievers most objected were:

- a perceived lack of genuine respect for each child
- a competitive social climate
- inflexibility and rigidity
- stress on external evaluation
- the "failure syndrome" and criticism that seemed to predominate in the classroom environment
- teacher control over all learning activities
- an unrewarding curriculum

These same elements, however, were also those which students in general found dissatisfying and therefore were not unique to gifted student populations (see Jackson, 1968, Goodlad, 1984 et al).

L. KINDS OF UNDERACHIEVEMENT

Researchers have found that underachievement varies in duration and scope (Raph, Goldberg and Passow , 1966; Whitmore, 1980) and is either (1) temporary and/or situational or (2) chronic. Temporary/situational underachievement is that which is precipitated by a temporary period of disturbance, i.e., divorcing parents, sickness, death, social problems or new interests, or by a situation such as moving to a new school or experiencing a personality conflict with a teacher. Chronic underachievement, on the other hand, is a long-standing established pattern of behaviour and is generalized to overall school performance.

The effects of underachievement have been found to vary with different individuals, some experiencing few negative effects on their emotional and/or social behaviours and others experiencing severe effects, usually resulting in one of two behaviour patterns -- withdrawal or aggression. These latter "coping mechanisms usually result in social isolation or peer alienation and continuous social conflict" (Whitmore 1980:168).

In summary, researchers are primarily agreed that "high IQ, low performers" constitute the largest source of talent loss although they are not agreed upon the use of the term underachievers to describe them. Some, like Dulles (1961), argue that the concept of underachievement is a "myth" and that the term underachieving would be better replaced by the term overpredicted (see also Anastasi 1982) and that the student's "real capacity" should be judged on the actual level of performance rather than on prediction from IQ scores. Passow (1980:5) similarly feels that IQ is a misleading clue to potential, arguing that if students are considered to be underachieving because of uneven academic performance, they may, in fact, be realizing their potential in those particular areas. In other words, "intelligence tests may not measure differentiated capacities adequately" (Passow 1980:5). Assumptions regarding potential and underachievement, therefore, remain problematic.

M. IQ CONSTANCY

Contrary to popular belief, IQ scores are not constant over time and are subject to change for a variety of reasons. According to Aiken (1982:169), IQ tests are "less than reliable; consequently, an examinee's score on one of these tests will change somewhat with time and testing conditions." Changes are generally in the order of 5 to 10 points although changes of 30 or more points are possible, usually being the result of rather "dramatic variations in health or living conditions" (Aiken 1982). The possibility of change in IQ scores, therefore, has significance for gifted students since a change of even 5 IQ points can mean the difference between being labelled "gifted" or "non-gifted". Yet there is a common misconception that IQ scores are "fixed" attributes, like the color of one's eyes, and non-changing over time and place -- a belief arising from the "bucket theory of intelligence" (Brookover and Erickson 1975) and the "straight line of intellectual development." Part of this misconception is derivative of the belief that IQ tests measure innate and unchanging capacities. Despite the cautions and "debunking ventures" of psychometricians and test constructors to disprove this misconception, it persists "among the general public and among test users who are not knowledgeable about either testing or psychology" (Anastasi, 1982:134) primarily because of the "desire for magic -- the desire for easy answers, quick solutions and shortcuts" (Anastasi, 1982:134). Certainly with respect to identification of students for gifted programs this is true since the cut-off score of 130 provides a quick administrative solution in determining who should participate in gifted programs and who should not. At the same time, however, it falsely and injuriously labels children as "gifted" and places undue stress and pressure on them to perform at unrealistic gifted levels.

The instability of IQ scores over time has been demonstrated by a number of major empirical studies. For one, Honzik, MacFarlane and Allen (1948) found that scores of individual children changed as much as 30 to 50 IQ points. They found that 15% of the children's IQ scores changed less than 10 points; 17% changed between 10 to 15 points; 58% changed more than 15 points and the remaining 9% changed by 30 or more points with several cases fluctuating as much as 50 points over the years. Sontag, Baker, Kagan and Nelson (1958) similarly found that IQ scores changed over time with those whose parents encouraged and nurtured high achievement being the ones whose scores increased. Thus, provided the environment remained relatively stable, IQ scores also tended to remain stable.

Cornell and Armstrong (1955) reanalyzed the Harvard Growth data and found there were apparent growth patterns to the changes in IQ scores. 25% of the males and 39% of the females showed a "sudden spurt" in IQ scores, thereby raising their early IQ scores into the next highest ability category. An example of this was a grade 3 boy who scored at an average IQ level in the first test adminstration but who raised his IQ scores to the gifted level in the next adminstration. Very importantly, they found that only 9% of the boys and 22% of the girls followed the "straight line of development predicted according to IQ theory." They felt that on the basis of their findings, it was difficult to make long term predictions on IQ scores obtained in the early years.

Bayley (1955) similarly found a lack of constancy in IQ scores, finding a low correlation between infant IQ tests and later IQ scores, again demonstrating that early IQ scores had low predictive value. She found that after the age of six, test scores tended to be more stable and hence, more predictable for most individuals. The instability of IQ scores in the early years was demonstrated also by Meeker (1968) who found that only 75% of a group of students identified as gifted in the early grades were still scoring above the 90th percentile four years later. She found their early IQ scores did not correlate highly with their IQ test scores four years later and more importantly, none of their teachers knew they had been identified as gifted in the elementary school. Meeker concluded that these students were "lost" because of inadequate attention in the secondary school.

Jacobs (1970) found a similar relationship. Of a group of 19 pre-schoolers identified as gifted, only seven managed to maintain their IQ scores in the gifted range several years later but none was perceived to be gifted by his/her teacher. According to Jacobs, teachers identified students as gifted on the basis of a set of characteristics derived from "studies based on biased groups leading to biased conclusions", concluding that students identified for programming were a different group of students than those demonstrating giftedness in early childhood. Another possible explanation, however, was that primary aged IQ scores had low predictability.

In another study, Goldberg and Passow (1962,1980) found that the mean IQ's on the Otis-Lennon of elementary students in New York increased from grade 3 to 6 for the general student population except for the 140+ group of gifted students. "The mean increase in IQ between the third and sixth grade for children with Otis Alpha scores of 99 and below was 13.6; for those 100 - 109, 11.6; for those 110 - 119, 10.3; for those 120 - 129, 7.9; and for those 130 - 139, 4.1" (1962, 1980:83). They explained that the effects of regression partially explained the IQ changes although they felt other factors were operational.

> "The fact that all of the schools involved could, roughly speaking, be identified as middle class schools, with the usual middle class emphasis on learning to read might explain why the scores on a test which depended heavily on reading ability (Otis Beta) should be higher than those originally found on a nonverbal instrument. This possibility is supported by the findings from a city wide study of IQ changes which showed that the group mean remained unchanged and the regression pattern was more consistent" (1980,1962:85).

Thorndike (1975) found that in general, the average IQ of the North American population had increased since the 1930's, particularly that of preschool populations. He cited such factors as increased educational opportunities, television and improved economic conditions as contributing to the change. Thus, even under ideal testing conditions, changes were expected, the resultant variability and change attributed to any one or more of the following factors:

(1) TEST UNRELIABILITY

Pinneau (1961) states that the most extreme fluctuations in test scores can partially be attributed to an uneven concentration of easy and difficult items at different age levels. Barbe (1964) and Khatena (1982) further suggest that IQ tests are not as reliable at the upper limits and that changes in scores for bright students may, in fact, reflect this unreliability. Khatena (1982:44) found that students who scored one or two standard deviations above the mean tended to show more fluctuation at different age levels; however, as he explained, "It must be realized that IQ differences relate to the scores obtained on a test and not to differences in true intelligence, the nature of which we do not really know and can only infer from test performance."

(2) VARYING CEILINGS FOR DIFFERENT IQ TESTS

Different IQ tests have different ceilings, making it most likely students will have different IQ scores on different tests. This, however, is not often recognized and assumptions are made that a score on one test is equivalent to a score on another although Anastasi (1968:64) cautions against such generalization.

> "If a school child's cumulative record shows IQ's of 118, 115 and 101 at the fourth, fifth and sixth grades, the first question to ask before interpreting these changes is "what tests did he take on these three occasions?" The apparent decline may reflect no more than the differences among the tests. In that case, he would have obtained these scores even if the three tests had been administered within a week of each other."

(3) VARYING CONTENT IN DIFFERENT IQ TESTS

IQ tests vary in content coverage. Some emphasize verbal skills, some non-verbal skills, others perceptual and still others a combination of skills. They also vary in scale units and standardization samples and therefore, assumptions cannot be made with respect to their uniformity. Anastasi (1968; 1982) cautions against generalizing comparability of scores derived from different tests.

(4) TIME INTERVAL

Generally, the longer the time interval is between test administrations, the greater the possibility of change in IQ scores.

(5) ENVIRONMENTAL CHANGES

Changes in the students' environment, whether in the home or school, affect the stability of IQ scores. If the environment tends to remain relatively constant, then IQ scores similarly tend to remain constant. However, for those individuals whose social environment does not encourage intellectualism, there is a tendency for IQ scores to decline over time, particularly for certain groups, i.e., low SES students, culturally disadvantaged, minorities, females ... (Bayley 1955; Bradway and Thompson 1962; Boocock 1972; Campbell 1976).

(6) DEVELOPMENTAL FACTORS

According to Cognitive Psychologists, cognitive abilities develop at different rates for different individuals, some demonstrating certain cognitive abilities sooner than others. This has implication for performance on IQ tests since those who develop certain cognitive abilities sooner than others will tend to score higher. This, coupled with the finding that changes in IQ are greater for young children (Lyman 1978; Anastasi, 1968; Jacobs, 1970 et al), emphasizes the importance of developmental factors in assessing intelligence. Furthermore, though there is no consensus in terms of what constitutes intelligence, it is believed to be multi-factorial. Since IQ tests are limited in the types of ability they measure, they merely sample certain abilities at certain age levels. Feuerstein (1980), Hunt (1961), Chiba (1981), Norton and Doman (1982) among others, have shown that IQ scores changed with the systematic development of cognitive abilities and that growth factors as well as instructional factors had to be considered as possible explanations for changes in IQ scores.

O. SUMMARY

The literature review shows that gifted students are primarily high SES, high achieving students, the majority of whom are educationally and occupationally successful. In part, these findings are artifacts of the definition of giftedness since students are identified as gifted on the basis of high achievement on IQ and standardized achievement tests. On the one hand, these selection instruments are excellent predictors of short term achievement but on the other hand, they are not good predictors of eminence. As Aiken (1982:167) points out, "Few, if any, of Terman's gifted children attained the eminence of a Churchill, Einstein, or Hemingway. Nor did any of them become a famous composer, artist or poet."

Identification of giftedness tends to focus on the high academic achiever almost to the total exclusion of creatively gifted individuals in disadvantaged groups, i.e., females, racial and ethnic minorities, lower classes, and the handicapped, a finding reinforced by Richert, Alvino and McDonnel (1982) who found that ...

> "The emerging pattern of identification practices suggested some disturbing trends. Among the students who would most often be screened out on the basis of questionable assumptions and data were those who most need programs: the underachieving, handicapped, disadvantaged, bilingual and exceptionally creative. Others regularly excluded from services were potential leaders and artists. Clearly equity is a critical issue in the field...
>
> Even more serious issues of equity and advocacy are raised by the kinds of students who tend to be excluded by definitions relying solely on I.Q. or achievement measures. Most tests of achievement, including I.Q.tests, have been demonstrated to be biased against certain groups who are then denied the opportunity to develop their full potential. They include underachieving gifted students, the poor, the culturally different, the limited English speaking and, in some tests of mathematics, females. Furthermore, students who have exceptional abilities that are non-academic, or unrelated to the abilities measured by achievment tests, are also excluded. Furthermore, by implication, the value of their exceptional abilities is denied, so this definition is indeed vulnerable to the charge of elitism." (1982:99)

Contributions from sociology show that whatever talent loss there is in high ability student populations, it tends to be in the culturally disadvantaged groups. Even though there may be a talent loss among the gifted, the literature suggests that it is not in the "identified" or in the identifiable gifted student population. Rather it is in the student population that is not, or cannot be, readily identified.

It is anticipated, therefore, that the findings of this study will essentially replicate those of the past, i.e., that "identified gifted" students will be high achievers and will be primarily of professional and/or managerial backgrounds. It is also anticipated that their IQ scores will change over time. Since these students were identified as gifted in the primary grades, it is expected their scores will decrease not only because primary IQ scores are poorly correlated with later grade IQ scores but also because of expected regression effects. If this is the case, then the findings will replicate those of Meeker (1968) and Jacobs (1970).

CHAPTER III

RESEARCH PROCEDURES

This chapter is organized to outline research procedures used in the collection and analysis of data in order to compare ability, achievement and social profiles of "identified gifted" and "unidentified gifted" high school students in a Canadian urban centre (hereafter referred to as District Y).

The questions guiding the study are as follows:

(1) Do gifted students actually maintain their IQ test scores in the gifted range, i.e. 130+ ? What kind of changes occur over time in IQ test scores? Are these patterns evident for both "identified gifted" and "unidentified gifted" students?

(2) Do gifted students come primarily from upper middle class elites or do they come from all socioeconomic groups? Is there a difference in SES background between "identified gifted" and "unidentified gifted" students?

(3) Do students who participate in gifted programs succeed academically and if not, why not?

(4) Do gifted students who have not participated in interventionist programming "make it on their own"? In other words, do they achieve well in school despite the fact that they have not participated in gifted programming?

(5) Do those who have participated in gifted programs achieve better academically than those who have not participated? In other words, does gifted programming appear to have a positive effect on later academic achievements of participants? Does special educational intervention appear to counter the gender and SES effects known to affect student achievement?

(6) Do large numbers of gifted students, "identified or unidentified", achieve below the level at which they are capable? Is the percentage as large as the 55% suggested by Millar (1981:12)?

(7) Is there a difference between low achievers and high achievers in both "identified gifted" and "unidentified gifted" groups of students in terms of SES, gender and attitudes?

DEFINITION OF TERMS

A. GIFTED

"Gifted" is defined in the same way it has been defined by the Canadian school system whose student population is under study. The use of the system's definition of gifted is necessitated by the fact that students have been identified for gifted programs on the basis of this definition. The identification criteria are:

(1) an IQ test score of 130 or above, scored on either a group IQ or an individual IQ test

(2) superior achievement on the standardized achievement tests, scores approximately two standard deviations above the mean

(3) superior classroom achievement

(4) ability to work independently with little supervision

(5) recommendation by teacher, counselor or administrator

The definition assumes that scores obtained on individual or group IQ tests are equivalent with little or no recognition that different tests may measure different abilities, use different metrics and have different age limits.

The supporting achievement criteria suggest that students identified for gifted programming are essentially "academic achievers" having both the orientation and motivation for academic success. In this sense, District Y is identifying the same type of student that has been identified in the past, i.e., the high achieving, high IQ student.

B. "IDENTIFIED GIFTED"

The term, "identified gifted", refers to the sub-sample of students who were officially identified and labelled "gifted" according to the above criteria and who were chosen to participate in elementary gifted programs during grades 3 through 6. The length of time students spent in gifted programs varied anywhere from one to four years, the length of participation being a function of the year in which they were identified and in their persistence in attendance. Dropping out of programs was fairly common for a variety of reasons; consequently, the extent of program intervention varied with individual students.

C. "UNIDENTIFIED GIFTED"

The term "unidentified gifted" refers to the sub-sample of students scoring 130+ on system group ability IQ tests in grades 6 and/or 9 who were not officially identified as gifted and who did not participate in gifted programs during elementary school. They form the comparison group against whom the ability, achievement and SES profiles of "identified gifted" students are compared.

D. ABILITY

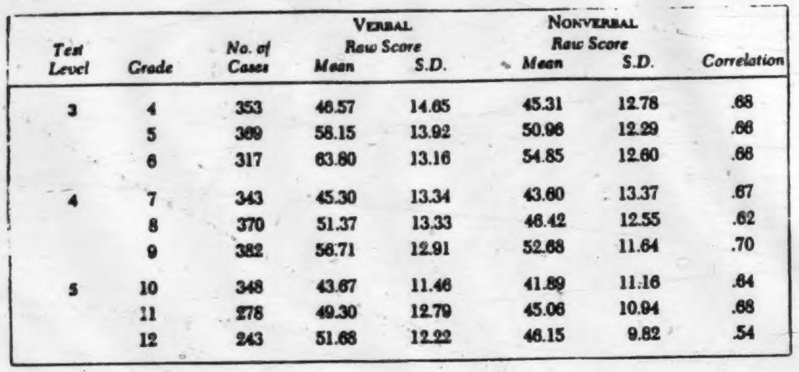
The term "ability" is similarly defined in the way in which District Y operationalizes the term, i.e., that which is measurable by an IQ test. Since District Y routinely administers group ability IQ tests at the grades 3, 6 and 9 level, all students within the system have IQ scores on file unless absent during test administration. Two group ability IQ tests have been used by the system -- the Lorge Thorndike and the Canadian Cognitive Abilities Test. The Lorge Thorndike (LT) has two component sub-tests (verbal and non-verbal) whereas the Canadian Cognitive Abilities Test (CCAT) has three (verbal, quantitative and non-verbal). On both tests, the "ceiling", i.e., the highest score attainable, is 150 and the scaled average score is 95 -110.

The verbal battery on the Lorge Thorndike has separate sub-tests for vocabulary, arithmetical reasoning, verbal classification and sentence completion. The non-verbal battery, on the other hand, has sub-tests for figure classification, number series and figure analogies. Both batteries are highly correlated (See Table 3.1), thereby enabling the test developers to claim that ...

> "There is much in common between what is being measured in the two series. The functions are sufficiently similar so that for most pupils, it will be appropriate to average the IQ's from the two batteries to yield a single more comprehensive and more reliable estimate of over-all intellectual ability. However, in about 25% of the cases, the two forms will yield IQ's differing by 15 points or more." (1963:12)

TABLE 3.1

CORRELATION BETWEEN VERBAL AND NON-VERBAL BATTERIES OF LORGE THORNDIKE INTELLIGENCE TESTS



Test Level	Grade	No. of Cases	Verbal Raw Score Mean	Verbal Raw Score S.D.	Nonverbal Raw Score Mean	Nonverbal Raw Score S.D.	Correlation
3	4	353	46.57	14.65	45.31	12.78	.68
	5	369	58.15	13.92	50.96	12.29	.68
	6	317	63.80	13.16	54.85	12.60	.68
4	7	343	45.30	13.34	43.60	13.37	.67
	8	370	51.37	13.33	46.42	12.55	.62
	9	382	56.71	12.91	52.68	11.64	.70
5	10	348	43.67	11.46	41.89	11.16	.64
	11	278	49.30	12.79	45.06	10.94	.68
	12	243	51.68	12.22	46.15	9.82	.54

They acknowledge, however, that the Lorge Thorndike is limited in the type of ability measured although they claim that the two batteries are "avowedly measures of abstract intelligence -- expressed in verbal symbols in the one case and in pictorial, diagrammatic and numerical symbols in the other" (1963:14). Both are highly correlated with achievement tests (r =.58 -.87) and school grades (r =.52 - .76) and are, therefore, generally good predictors of school success (see Appendix 3).

The Canadian Cognitive Abilities Test, on the other hand, is a revised, Canadian normed group intelligence test which "evolved from the well accepted Lorge-Thorndike Intelligence Test series" in which the "multi-level format and some of the item types of the older series have been retained " (Thorndike, Hagen & Wright 1971,1974:2). The CCAT, therefore, is derivative of the Lorge Thorndike but incorporates a number of refinements, new test items and the addition of a quantitative battery. Essentially, the CCAT provides ...

> "... a set of measures of the individual`s ability to use and manipulate abstract and symbolic relationships... symbols representing words, symbols representing quantities, and symbols representing spatial, geometric or figural patterns.In this test separate batteries have been provided to assess competence in working with each of the three types of symbols. The set of three scores will provide a profile showing the level and pattern of each examinees's ability. Knowledge of areas of relative strength and weakness should help the individual, and the school ~~or~~ potential employer, to use strengths most effectively or to compensate for areas of weakness." (1971: 2)

Verbal sub-tests include test items on vocabulary, sentence completion, verbal classification and verbal analogies -- items requiring both reading abilities and a "store of verbal concepts". Quantitative sub-tests include items on quantitative relations, number series and equation building -- items requiring "almost no reading of verbal symbols so that the influence of reading skills on the scores has been held to a minimum " (Thorndike, Hagen & Wright, 1971:2). Non-verbal sub-tests, on the other hand, include items on figure analogies, classification and synthesis requiring neither verbal nor numerical knowledge. Examinees are required only to observe, discover and manipulate relationships presented in the figural test items. Relative to verbal and quantitative items, non-verbal items tend to be "culture - fair" in that they are not school - taught. To quote Thorndike, Hagen & Wright

(1971:3),

> "The Nonverbal Battery measures more nearly what has been called "fluid intelligence", that is, ability that is not bound by formal school instruction. Where performance on this battery runs ahead of performance on the verbal or quantitative battery, it may suggest potential that is not fully expressed in performance on school related tasks."

The non-verbal battery is provided to aid in the assessment of potential in disadvantaged populations because the verbal and quantitative batteries are more "culture-bound" and "may be inadequate for appraising abilities" (Thorndike, Hagen and Wright 1973) in the poor reader and ESL (English as a Second Language) student. What this means, however, is that verbal and quantitative batteries discriminate against disadvantaged populations, i.e., the poor readers, minorities, culturally different and/or unmotivated students, and do not give them as equal a chance to have their abilities appraised as they do advantaged populations.

Furthermore, the majority of test items on the respective CCAT sub-tests are of intermediate difficulty and consequently, discriminate between examinees of average ability more effectively than between examinees of exceptional ability. (Thorndike, Wright and Hagen (1973:3) In other words, the CCAT may not be very effective in identifying gifted students because it has an insufficient number of difficult test items to differentiate between the highest scoring individuals. The same is true of the Lorge Thorndike since all group IQ tests have "low ceilings" and are known to be poor identifiers of gifted students (see Pegnato and Birch 1959). It is for this reason they are not recommended for use in the identification of gifted students but are, instead, recommended only as general screening devices to identify the top 20% - 25%. It is then recommended that this top 20% - 25% be individually assessed for more "accurate" identification for programming. Thus, the Lorge Thorndike and CCAT, by their very design, may be ineffective in identifying gifted students but since they are the IQ tests used by District Y for this purpose, they are also the ones used to identify students for the "unidentified gifted" comparison groups.

One of the advantages, however, of using the LT and CCAT lies in the fact they yield separate scores for each of the component batteries, thereby permitting analysis of the common assumption that giftedness is absolute and equally manifest in all ability areas. They will then provide a more accurate assessment of the relative cognitive strengths and weaknesses of gifted students and facilitate a closer examination of the nature of giftedness as defined and operationalized by school districts.

As with the Lorge Thorndike, correlations between CCAT batteries are similarly high (see Table 3.2), ranging from .6 to .7. Correlations between sub-tests within the separate batteries are similarly high although they tend to be spread out more than between batteries, ranging anywhere from between .3 to .7. (See Table 3.3) Correlations between

Lorge Thorndike and CCAT batteries are not available and therefore, inter-reliability between tests is unknown. For this reason, caution is exercised in the analysis of IQ data and comparison between grade groups is not made although within grade comparisons are (see the DATA ANALYSIS section of this chapter for a detailed discussion of the way in which data is analyzed).

TABLE 3.2

CORRELATIONS AMONG VERBAL, QUANTITATIVE AND NONVERBAL BATTERIES

Grade	Verbal vs. Quantitative	Verbal vs. Nonverbal	Nonverbal vs. Quantitative	N
3	.70	.61	.66	2274
4	.71	.63	.67	2627
5	.70	.64	.70	2870
6	.68	.62	.68	3099
[illegible]	.65	.63	.70	2973
8	.64	.58	.71	2809
9	.63	.59	.71	2349
10	.62	.58	.70	2251
11	.63	.60	.70	1767
12	.60	.54	.69	1623
Median	.65	.61	.70	

TABLE 3.3

INTERCORRELATIONS OF SUBTESTS FOR GRADE 3 PUPILS (N=2274)

Subtest	1	2	3	4	5	6	7	8	9	10
1. Vocabulary	-	.69	.65	.64	.52	.47	.44	.33	.44	.30
2. Sentence Completion	.69	-	.65	.68	.48	.54	.44	.41	.47	.30
3. Verbal Classification	.65	.65	-	.70	.48	.51	.46	.43	.49	.34
4. Verbal Analogies	.64	.68	.70	-	.50	.58	.52	.50	.60	.39
5. Quantitative Relations	.52	.48	.48	.50	-	.46	.54	.34	.46	.36
6. Number Series	.47	.54	.51	.58	.46	-	.52	.52	.58	.36
7. Equation Building	.44	.44	.46	.52	.54	.52	-	.39	.50	.37
8. Figure Classification	.33	.41	.43	.50	.34	.52	.39	-	.54	.38
9. Figure Analogies	.44	.47	.49	.60	.46	.58	.50	.54	-	.46
10. Figure Synthesis	.30	.30	.34	.39	.36	.36	.37	.38	.46	-

For the purpose of the study, group ability test scores constitute the measure of "ability" for "identified gifted" and "unidentified gifted" and the Lorge Thorndike (LT) and Canadian Cognitive Abilities Test (CCAT) the instruments by which this ability is measured.

E. ACHIEVEMENT

The term "achievement" refers to academic success in school as measured by year-end grade scores awarded students by classroom teachers on the basis of overall school performance. Achievement measures are limited to year-end scores for grades 7 through 12 since these are the scores which determine access to higher levels of education.

The greatest limitation of teacher-made tests is the subjectivity which enters into their development and evaluation. Depending on teacher biases and preferences, teachers approach subjects in different ways and emphasize different concepts. Exams naturally reflect these biases and therefore, vary from teacher to teacher. Only Departmental exams are more standardized but these too have their limitations.

In addition, test construction varies with different teachers. Depending on teachers' expertise in development, over-emphasis or under-emphasis on one type of question may serve to discriminate against students who do best on certain types of exams. Teachers may structure tests so that they are too heavily weighted in one section of the course as opposed to the others. Then, some tests may require only recall of factual material while others may demand critical evaluation, differences which ultimately affect the level of student performance on any given test.

Subjectivity also enters into the grading procedures with some teachers marking on the curve, some marking too easy and others too hard. Though the biases of teachers are well recognized, grades are generally treated as unproblematic by educational and business institutions and hence, are likewise treated in this study.

F. SOCIOECONOMIC STATUS

The term "socioeconomic status" (SES) refers to social class origins as traditionally defined by Warner et al (1945). Three basic class divisions (lower, middle and upper) are delineated and then sub-divided into six divisions (upper upper class, lower upper class, upper middle class, lower middle class, upper lower class and lower lower class). These SES divisions are somewhat similar to Blishen's (1976) categorization of social groups on the basis of occupation -- Class I (Professional), Class II (Managerial/Entrepreneurial), Class III (Middle level white collar workers), Class IV (Low level white collar workers), Class V (Skilled and semi-skilled blue collar workers) and Class VI (Unskilled and manual workers).

It is commonly assumed that occupational status and social class are related with professionals, businessmen and highly educated individuals being of a higher class than those with lower levels of education and training. Thus, the Warner and Blishen categorizations are roughly equivalent to each other with the upper class being comprised of professionals and managers/entrepreneurs (Classes I and II), the middle class being comprised of middle and low level white collar workers (Classes III and IV) and the lower class being comprised of blue collar workers (Classes V and VI). A further assumption is that these occupational rankings reflect the relative economic positions of these groups with the highest status occupations yielding the highest incomes and the lowest occupations, the lowest incomes.

Recognizing the problems underlying such assumptions but also the need to operationalize a definition for research purposes, SES origins of the students in the sample are determined by the social and economic communities in which they live. Using data and census maps provided by Statistics Canada (1983) in which average family incomes are given for each census tract in the city, six social classes are formed on the basis of the given income levels:

SES #1 - $40,000 and higher
SES #2 - $35,000 - $39,999
SES #3 - $30,000 - $34,999
SES #4 - $25,000 - $29,999
SES #5 - $20,000 - $24,999
SES #6 - Below $ 20,000

Students living in a community in which the annual average income is $40,000 or higher are assumed to be of upper class origin (SES #1) whereas those living in communities where the average annual income is below $20,000 are assumed to be of lower class origin (SES #6). The above divisions are assumed to be roughly equivalent to those devised by Warner and Blishen with the above SES categories #1 and 2 being upper class, SES categories #3 and 4 being middle class, and SES categories #5 and 6 being lower class.

For a comprehensive view of the SES composition of the city in which District Y is located, the stem and leaf display in Figure 3.1 shows the distribution of incomes in the respective census tracts. The thousands digit is used as the stem; the digit to the right of the stem represents the hundreds rounded off to the nearest hundred, e.g. Stem 61 would read $61,100, Stem 58 would read $58,400 and Stem 56, $56,500.

TABLE 3.4

DISTRIBUTION OF CENSUS TRACTS WITHIN THE SES CATEGORIES
N = 116

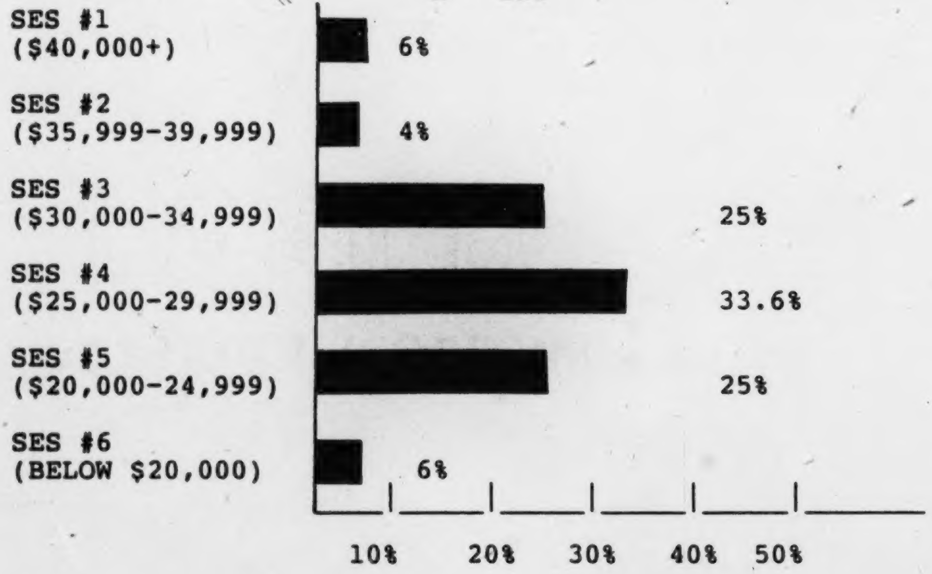


FIGURE 3.1

STEM AND LEAF DISPLAY OF SES DISTRIBUTION IN METROPOLITAN AREA OF SCHOOL DISTRICT Y

61	1
60	
59	
58	4
57	
56	5
55	
54	
53	
52	4
51	
50	
49	
48	
47	
46	
45	
44	4
43	
42	
41	0
40	5
39	1
38	0
37	3
36	6
35	1
34	1,4
33	2,3
32	0,1,4,4,5,7
31	0,0,0,0,0,0,2,4,4,4,5,6,7,7,9
30	0,1,1,3
29	0,2,3,4,4,7
28	2,3,5,5,6,7,7,7,9
27	1,1,2,4,4,5,8,8,9
26	0,1,2,2,4,6,7,8,8,8,9,9
25	5,7,8
24	0,1,1,1,4,9,9
23	1,4,7,7,7,9
22	2,3,4,6,6,6
21	0,1,2,2,5,6,6
20	3,7,8
19	0,0,5,5
18	9
17	6
16	
15	6

Table 3.4 shows the greatest percentage of urban dwellers live in SES #4 communities (those in which the reported annual income is in the $25,000 -$29,999 range). Only 6% (or 7) of the census tracts have registered annual incomes exceeding $40,000 or below $20,000, the remaining tracts being evenly split in the $30,000 - 34,999 and $20,000 - $24,999 range.

There are a number of limitations in using census data for determining SES origins of students although the difficulty in accessing occupational data for individual families necessitated the use of averaged income data. Initially, father's occupation had been sought for each student but the unavailability of this information for slightly more than a third required another method of determining family SES. The occupational data that were acquired were used in a separate analysis to parallel the analysis of SES data acquired from community income data. This latter method ensured a complete data file and was similar to the one used by Ballering and Koch (1984) in determining the SES of their gifted sample although they had realtors classify the addresses of gifted students as upper, middle or lower SES, assuming that students who lived in the respective SES communities were of that particular SES class.

Probably the greatest limitation in using residential data lies in generalizing the stated income level to all persons living in the given census tract. Many of the communities have a combination of high and low SES housing, particularly in new suburban areas where city planners have consciously designed communities to include a variety of income housing. Thus, low housing units are found several blocks away from high income single family dwellings and conversely, high income dwellings are found in older, low and/ or middle class residential areas yet the incomes of all residents within the tract are aggregated to yield an average income. Given the blend of housing that is found in any one tract, the use of average income levels may obscure the differentials that exist and therefore, may not accurately reflect the SES of individual families.

Another limitation is that individuals may not necessarily live in the SES community which is consistent with their social status or level of income. Many professionals choose to live in older established neighborhoods which are either close to their place of work or to the downtown core. Other individuals may live well beyond their means and choose to live in an upper class neighbourhood either for access to the best schools or personal prestige. Others may choose to remain in the same family home they have lived in for years even though the neighbourhood has deteriorated and its status has changed. There are others who might normally live in higher SES communities but who cannot because of circumstance as in the case of known single parent families, headed by professional mothers and living in multiple family dwellings in low SES neighbourhoods.

Choice of living accommodation is not always consistent with income level, therefore, it cannot be assumed that the students' personal SES is identical to that of the residential community; however, because individual family status is influenced by community status and because students attend schools whose social climates are determined by the dominant values of the SES community in which the schools are located, this is not seen as a major limitation.

SAMPLE CHARACTERISTICS

The sample is comprised of two distinct groups:

(1) One group of grade 10, 11 and 12 students who were officially identified and labelled as gifted in the elementary grades by the school system and who participated in gifted programs during elementary school

(2) Another group of grade 10, 11 and 12 students who were not identified as gifted and consequently did not participate in gifted programs but whose grade 6 or 9 IQ scores were in the gifted range,i.e., 130+

The "identified gifted" group is comprised of all those students currently in grades 10, 11 or 12 who participated in District Y's Gifted Program. Gifted Program enrollment records were necessary for the years 1974/75 through 1979/80 to identify students. Individual tracking was then necessary to ensure they were still in the system for inclusion in the sample.

Table 3.5 shows their distribution by grade and gender, the numbers reflecting those still in the system at the time the study was conducted. The original distribution of "identified gifted" and the percentage lost between grades 3 and 12 are discussed in Chapter IV.

TABLE 3.5

"IDENTIFIED GIFTED" HIGH SCHOOL SAMPLE

GRADE	MALE	FEMALE	TOTAL
10	74 (22.0%)	87 (25.9%)	161 (47.9%)
11	46 (13.7%)	46 (13.7%)	92 (27.4%)
12	52 (15.5%)	31 (9.2%)	83 (24.7%)
TOTALS	172 (51.2%)	164 (48.8%)	336 (100.0%)

"Unidentified gifted" comparison groups, on the other hand, are comprised of all grade 10, 11 and 12 students in District Y whose grade 6 and/or 9 group ability IQ scores were 130+ but who were not identified for gifted programming in the elementary grades. The ideal comparison groups would have been those comprised of students scoring 130+ on the grade 3 group IQ tests, i.e., the same ones used to identify "identified gifted" students. However, these scores were not available and comparison groups had to be selected on the basis of the available grade 6 and/or 9 IQ scores. Characteristics of these comparison groups are discussed in Chapter IV along with the findings from the preliminary analysis which necessarily precedes their identification.

It is important to note that the sample is highly selective and is comprised of all grade 10, 11 and 12 students in District Y who scored 130+ on grade 6 and/or 9 group IQ tests and/or who participated in elementary gifted programs, the only exceptions being those no longer in the district. To this extent, the sample is comprehensive and includes all students in the district who meet the study's selection criteria.

Table 3.6 shows the total number of students writing the group IQ tests when the current grade 10, 11 and 12 students were in grades 6 and 9 and from which "identified gifted" and "unidentified gifted" comparison groups were identified.

TABLE 3.6

SYSTEM TOTALS WRITING IQ TESTS AT GRADE 6 AND 9 LEVELS BETWEEN 1976/77 and 1981/82

CURRENT GRADE	GRADE 6 TEST	GRADE 9 TEST
10	N = 4490	N = 4093
11	N = 4454	N = 4110
12	N = 5022	N = 4522

DATA COLLECTION AND ANALYSIS

In order to examine ability, achievement and social profiles of "identified gifted" and "unidentified gifted" high school students, three types of data were required: IQ, achievement and SES data. Since each type was collected and treated differently, each type is discussed separately.

A. IQ DATA

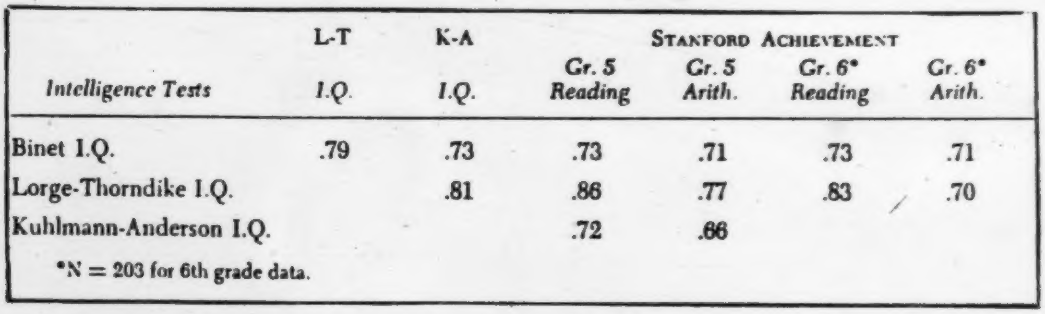
IQ data were accessed from the Student Assessment Department in School District Y following its approval of the study. IQ data for 1976/77 - 1981/82, i.e., the years the current grades 10, 11 & 12 students were in grade 6 and 9, were needed not only to locate a comparison group for "identified gifted" students but also to examine IQ constancy between grades 6 & 9. Unfortunately, grade 3 IQ data for the system aggregates were not accessible; therefore, identification of "unidentified gifted" students was made on the basis of grade 6 and 9 IQ scores alone.

Two different group IQ tests were used by the school system in its routine administration of ability tests at grades 3, 6 and 9. The Lorge Thorndike IQ test (LT) was used during the 1960's and early part of the 1970's but was replaced in 1977 with the revised and Canadian normed Canadian Cognitive Abilities Test (CCAT). This change in administration affected the students in the sample since they were caught in the middle of the transition. Consequently, each grade group wrote a different set of IQ tests. Grade 12 students wrote the Lorge Thorndike in grades 6 and 9; grade 11 students wrote the LT in grade 6 and the CCAT in grade 9 whereas grade 10 students wrote the CCAT in grades 6 and 9.

Given the difference in IQ tests between grade groups, scores were not directly comparable even though the CCAT was derivative of the LT and similar relational thinking abilities were measured in both. In some respects, the fact that some of the IQ scores were obtained on the LT and some on the CCAT should not have presented a problem especially since many educators believe that IQ scores are equivalent regardless of the test which is used. Though correlations between tests tend to be quite high (see Table 3.7), they are not perfect (r= +1) and therefore, different tests cannot be assumed to be equivalent. Because of the unavailability of correlations between the LT and CCAT and the unlikelihood of their being perfect even if they were, data for the different grade groups were analyzed separately. Caution was exercised in the interpretation of findings with most comparisons being within-grade comparisons although between-grade comparisons were also made with respect to overall trends and/or patterns.

TABLE 3.7

INTERCORRELATIONS OF LORGE THORNDIKE VERBAL BATTERY WITH STANFORD-BINET, KUHLMANN-ANDERSON AND STANFORD ACHIEVEMENT*



	L-T	K-A	STANFORD ACHIEVEMENT			
Intelligence Tests	*I.Q.*	*I.Q.*	*Gr. 5 Reading*	*Gr. 5 Arith.*	*Gr. 6* Reading*	*Gr. 6* Arith.*
Binet I.Q.	.79	.73	.73	.71	.73	.71
Lorge-Thorndike I.Q.		.81	.86	.77	.83	.70
Kuhlmann-Anderson I.Q.			.72	.66		

*N = 203 for 6th grade data.

*Source: Lorge Thorndike Technical Manual, 1963, page 22.

Analysis of IQ data was conducted in two stages. The first stage required an examination of grade 6 and 9 system IQ data for the years 1976/77-1981/82 in order to identify students scoring 130+ on one or more batteries at both grade levels. Once these individual students were identified, reference to Gifted Program enrollment records was made to find out which students participated in gifted programs and which students did not. Students were then categorized into "identified gifted" and "unidentified gifted" at each grade level.

The second stage involved analysis of IQ data for students in "identified gifted" and "unidentified gifted" grades 10, 11 and 12 in order to determine:

(1) what kind of changes in IQ test scores occurred between grades 6 and 9 for "identified gifted" and "unidentified gifted" students.

(2) whether these patterns of change were similar for "identified gifted" and "unidentified gifted" students.

(3) whether patterns of change were similar for males and females in both cohorts

This stage of analysis required the use of statistical procedures normally associated with descriptive studies -- frequency distributions, modal characteristics and cross tabulation by gender, grade and SES for "identified gifted" and "unidentified gifted" students. Ability patterns were graphed to illustrate the nature of change between grades 6 and 9 for the respective groups.

To aid in the interpretation of differences in IQ test scores at a given grade level between "identified gifted" and "unidentified gifted" students, the reliability of the respective tests was considered, specifically the standard error of measurement. The SEmeas indicates how much IQ scores are expected to vary if examinees are tested repeatedly on the same test. Since the SEmeas was not given in either the LT or CCAT Test Manual, the following formula was used in its computation (see Lyman 1978):

$$SEmeas = sx\sqrt{1 - rxx}$$

where SEmeas = standard error of measurement
sx = standard deviation of Test X
rxx = reliability coefficient for Test X

To use this formula in determining the standard error of measurement for the CCAT, the standard deviations and reliability estimates between test levels as reported in the CCAT Technical Manual were required (see Table 3.8). As noted, the reliability between levels was high with typical values around .92 for the verbal battery, .89 for the quantitative battery and .90 for the non-verbal battery.

TABLE 3.8

KUDER-RICHARDSON FORMULA #20 RELIABILITY ESTIMATES BY TEST LEVEL AND BY GRADE*

Test Level	Grade	Verbal			Quantitative			Nonverbal			
		Mean	SD	r_{11}	Mean	SD	r_{11}	Mean	SD	r_{11}	N
PRIMARY	BATTERY										
1	1							53.21	9.91	.881	2591
2	2							62.00	9.71	.859	2532
MULTILEVEL	BATTERY										
A	3	55.02	17.51	.948	34.59	9.22	.889	56.04	12.04	.922	2274
B	4	58.84	15.34	.932	37.35	9.55	.894	57.79	11.52	.915	2627
C	5	58.78	14.10	.918	39.44	9.30	.887	57.99	11.19	.908	2870
D	6	56.97	13.68	.911	41.13	9.01	.882	57.59	11.22	.905	3099
E	7	55.64	13.69	.910	41.01	9.49	.894	56.47	11.39	.903	2973
F	8	53.53	13.80	.910	40.35	9.42	.890	55.71	11.70	.905	2809
F	9	57.81	14.35	.918	43.88	9.14	.893	57.60	11.31	.901	2349
G	10	55.97	15.43	.929	42.34	9.53	.898	56.06	11.65	.902	2251
G	11	60.55	16.07	.936	44.88	9.06	.897	58.85	11.07	.899	1767
H	12	59.70	15.93	.935	42.40	8.88	.886	57.28	10.66	.887	1623

*Source: Canadian Cognitive Abilities Test Manual, 1973, page 19.

TABLE 3.9

STANDARD ERROR OF MEASUREMENT FOR CCAT BATTERIES

	VERBAL	QUANTITATIVE	NON-VERBAL
GRADE 3 (LEVEL A)	3.99	3.1	3.4
GRADE 6 (LEVEL D)	4.01	3.1	3.46
GRADE 9 (LEVEL F)	4.1	2.99	3.56

Applying the formula, the SEmeas for the grade 3 (Level A), grade 6 (Level D) and grade 9 (Level F) CCAT batteries ranged between 3.0 - 4.1 IQ points (see Table 3.9). This means that differences between "identified gifted" and "unidentified gifted" groups in mean IQ scores which were greater than 6 to 8 IQ points were larger than would be expected given sampling error. However, given the relative homogeneity of the students in the sample and the narrow range within which their IQ scores fell, means were not used to compare groups but rather medians. The latter were used to counter the effects extreme scores could have on means. This posed somewhat of a problem since the SEmeas is derivative of statistics based on means and not medians. However, because of the need to interpret differences between groups and also the need to be cautious in their interpretation, the largest SEmeas, i.e., ± 4 (or 8 IQ points), was used to determine whether or not differences in group medians were larger than expected. For the grade 10 groups, therefore, a difference between "identified gifted" and "unidentified gifted" group medians > 8 IQ points on the grades 6 and/or 9 verbal, quantitative or non-verbal sub-tests was considered to be significant.

For determining whether or not the changes between grades 6 and 9 in IQ scores were larger than expected regression effects, the following formula was used (Lyman 1978:128):

$$SE_{\text{diff meas}} = \sqrt{SE^2_{\text{meas x}} + SE^2_{\text{meas y}}}$$

where SEmeas x = standard error of measurement on Test X
SEmeas y = standard error of measurement on Test Y

Once the SEdiff meas was obtained, to be 90% confident that the difference between the two tests could not be attributed to chance, the SEdiff meas was multiplied by 1.6 (See Lyman 1978). For example, the SEdiff meas of the difference between grade 3 and 6 CCAT verbal sub-tests = $\sqrt{3.99^2 + 4.08^2} = \sqrt{32.57} = 5.7 \times 1.6 = 9.12$. In other words, a difference between grade 3 and 6 verbal means > 9 IQ points indicates the difference could not likely be attributed to sampling error. Table 3.10 shows the 90% confidence limits for the SEdiff meas for the other CCAT batteries.

TABLE 3.10

STANDARD ERROR OF MEASUREMENT OF THE DIFFERENCE BETWEEN TESTS AT THE 90% CONFIDENCE LEVEL

SEdiff meas between grades 3 and 6:	
VERBAL	9.12
QUANTITATIVE	7.00
NON-VERBAL	7.76
SEdiff meas between grades 6 and 9:	
VERBAL	9.25
QUANTITATIVE	6.90
NON-VERBAL	7.94

This particular formula did not take into consideration the correlation between grade 6 and 9 CCAT batteries but because correlations between levels and/or grades were not available either for the norming sample or the student population in District Y, they could not be entered into the formula. Thus, in determining the width of the variability band in interpreting differences in IQ scores between grades 6 and 9, the largest SEdiff meas at the 90% confidence level was used, i.e., 9 IQ points for the verbal battery and 8 IQ points for the quantitative and non-verbal batteries. Therefore, any differences greater than 9 IQ points between group medians could not be attributed to chance but were instead reflective of a real difference between groups. This variability band applied only to the grade 10 sample since they were the ones who wrote the CCAT in both grades 6 and 9.

Using the same set of formulas to interpret within and between grade differences for the students writing the Lorge Thorndike IQ test, i.e., the grade 12 "identified gifted" and "unidentified gifted" students, presented some problems in that reliability estimates and standard deviations for the test batteries were not provided in the test manual. This meant that the SEmeas for the grade 6 and 9 LT verbal and non-verbal batteries could not be determined in the same way they were for the CCAT batteries. SEmeas, however, were provided for the grades 2, 5, 8 and 11 LT batteries as shown in Table 3.11 but not for the grades 6 and 9 verbal and non-verbal batteries. Since they could not be calculated in the same way they were for the CCAT batteries, the weighted average standard errors of measurement for grades 5 and 8, i.e., verbal SEmeas = +4.4 and non-verbal SEmeas = + 6.2 (see Table 3.11), were used to determine the SEdiff meas. To be 90% confident that differences in IQ scores between grades 6 and 9 were not due to chance, differentials had to exceed 10.2 IQ points ($\sqrt{4.4^2 + 4.6^2} = 6.36 \text{ x } 1.6$) between grade 6 and 9 verbal medians and 15 IQ points ($\sqrt{6.2^2 + 7.1^2} = 9.42 \text{ x } 1.6$) between non-verbal medians. These sampling errors were considerably larger than those found for the CCAT, particularly for the non-verbal sub-test. Therefore, with respect to the changes in IQ test performance between grades 6 and 9, difference > 10 on the verbal and >15 on the non-verbal between "identified gifted" and "unidentified gifted" groups were considered to be significant.

To interpret differences between groups at one grade level, the weighted average standard error of measurement for the Lorge Thorndike verbal and non-verbal batteries was used, i.e., verbal -- grade 5 = 4.4, grade 8 = 4.6; non-verbal -- grade 5 = 6.2, grade 8 = 7.1. For the grade 12 group, therefore, differences in medians between "identified gifted" and "unidentified gifted" groups greater than 9 IQ points on the verbal battery and greater than 14 IQ points on the non-verbal battery were considered larger than expected given the sampling error.

TABLE 3.11

STANDARD ERROR OF MEASUREMENT OF LORGE THORNDIKE INTELLIGENCE TESTS IN POINTS OF I.Q. AT SELECTED RAW SCORE LEVELS*

Average Raw Score	Primary		Nonverbal			Verbal		
	1	2	3	4	5	3	4	5
10	7.0	8.0						
15	6.8	7.6	8.7	8.1	6.5	6.6		
20	6.5	7.3	7.9	7.6	5.9	5.8	6.0	6.0
25	6.3	7.2	7.0	7.2	5.4	5.1	5.4	5.6
30	6.2	7.2	6.2	6.9	5.2	4.5	4.9	5.2
35	6.0	7.3	5.8	6.6	5.6	3.9	4.5	5.0
40	6.2	7.6	5.6	6.5	6.2	3.5	4.2	5.0
45	6.9	8.0	5.5	6.7	6.6	3.2	4.1	5.1
50	7.9	8.3	5.7	7.0	6.7	3.0	4.2	5.2
55			6.0	7.4	6.3	3.5	4.4	5.1
60			6.3	7.8	5.8	4.3	4.5	4.8
65			6.9	8.2		5.0	4.6	4.5
70			7.8	8.6		5.5	4.7	4.0
75						5.9		
Wtd. Av.	6.5	7.8	6.2	7.1	6.1	4.4	4.6	5.1
Reliability Coefficient	.83	.76	.85	.80	.85	.92	.92	.90
Cases	1223	1641	2659	1419	834	2659	1419	834

* SOURCE: Lorge Thorndike Technical Manual, p. 11

B. ACHIEVEMENT DATA

Year-end grade scores were obtained for students in the sample for grades 7 through to their present high school grade; thus, students in grade 10 had achievement data only to the end of grade 10 whereas those in grade 12 had data to the end of high school. Data were collected in July 1983 to ensure year-end grades were reported and on record for all students in the sample.

Achievement data were limited to year-end grade scores accessible from the school system's computerized student record files. Once accessed, grade point averages (GPA's) were determined for each student and for each grade on the basis of core subjects. In junior high, four subjects were averaged to yield the GPA, these being Language Arts, Science, Social Studies and Mathematics. Options were not included in the GPA since there was little commonality between students in the options taken and they were not considered part of the core curriculum.

In senior high, academic core subjects were similarly averaged to yield GPA's. Courses included in the high school GPA were English, Social Studies, Mathematics, Biology, Chemistry and Physics. For the majority of students, the GPA was based on the above six subjects in each grade although there were a number of students whose GPA was based on 5 subjects (generally excluding Physics) and some whose GPA was based on 7 or 8 subjects because they took additional math or science courses. Subjects such as Art, Electronics, Law, Communication, Psychology, Drama, Typing, German, etc. were not included in the GPA for the same reason they were not included at the junior high level.

In order to compare levels of achievement, GPA's were cross tabulated by grade and gender for aggregate "identified gifted" and "unidentified gifted" grade groups.

In order to find out why some students were not achieving, a separate analysis of high achievers and low achievers was conducted. High achievers were those whose junior and senior high school GPA's consistently remained above 70% and low achievers were those whose GPA's were below 70%. It was from these two groups that students were selected for interview purposes.

Since trend analysis of achievement data was the primary objective of the study, statistical differences were not sought. Instead, frequency tables were generated to show the distribution of students in the various GPA categories, i.e., 90% -100%, 80% -89%, 70%-79%, 60%-69%, 50%-59% and <50%, and the modal characteristics. Inter and intra-group comparisons were made between "identified gifted" and "unidentified gifted" cohorts with a difference of 4% between group medians being seen as constituting a difference in the level of achievement between groups. Medians were used instead of means because they were not influenced as much by extreme scores as means were and the difference of 4% was derived from using the Probable Error (PE). (See Lyman 1978:50) This statistic is seldom used today but because a sampling error in the distribution of scores was needed to interpret differences between "identified gifted" and "unidentified gifted" students, the PE was used to approximate the error of measurement. The PE was determined by multiplying the standard deviation (SD) of the distribution by the constant value of .6745. The SD or SEmeas of the GPA's for the students in District Y could never be known; therefore, the SD of this population's distribution was used to determine the probable error. Reference to the tables in Appendix 6 shows that the standard deviations were small, ranging anywhere from 4 to 11 with a median SD between 6 and 7. The median error was approximately 4 to 5 points -- thus, the 4% differential.

C. SES DATA

In order to determine the student's SES origins, the community in which the student lived was required. This information was used to locate the census tract in the city where the school system is located, using the map provided by Statistics Canada. Once the census tract was located, the averaged income data for that particular tract was used to categorize students into 6 different SES classes. Census tracts and/or communities in which the annual income was $40,000 or more were classified as SES#1 (the highest SES category); $35,000 - 39,999 tracts were classified as SES #2; $30,000 - 34,999 tracts were SES#3; $25,000 - $29,999 were SES#4; $20,000 - $24,999 were SES#5 and below $20,000 were SES#6.

Data thus acquired were based on public information and involved a necessary four - step process in determining SES for students in the sample. Limitations in using averaged income data for different SES neighbourhoods to determine individual SES origins were addressed earlier on pages 111-117.

As well as determining family SES on the basis of community income data, it was also determined using occupational data obtained from the Henderson Directory. Once the fathers' occupations were known, SES origins were determined using Blishen's revised scale of occupational rankings (1976) and classifying the respective occupations into one of the six class categories. This method proved to be rather unsuccessful since approximately a third of the families were not listed in the most recent Henderson Directories. Given the large sample size and the fact that father's SES was no longer routinely recorded in student files, school visits were not made to collect this data. This necessitated using the residential data method to determine family SES.

D. SUBJECTIVE DATA

Subjective (interview) data were obtained from a small sample of students scoring in the different achievement (GPA) categories to obtain student perceptions with respect to schooling and academic achievement. The major objective in its acquisition was to see how, or if, students could explain the factors underlying their respective achievements and whether or not high achievers and low achievers held similar beliefs and values about school and achievement.

An interview sample was selected to ensure:

(1) approximately the same number of high achievers and low achievers

(2) a concentration of grade 11 or 12 students, preferably grade 12 since they were in the best position to reflect upon their schooling experience

(3) an equitable representation from the different SES community schools

Approval for interviewing students was obtained from school administrators, parents and the students themselves. A copy of the consent form sent to parents is included in Appendix 4.

Collection of interview data included plans to interview between 60 to 70 students throughout the system with approximately 12 - 15 each from five participating high schools. Since the number and identity of interviewees was dependent upon the analysis of IQ, achievement and SES data, only when such analysis was completed could the interview sample be determined. Therefore, the distribution and SES profile of the resultant interview sample is discussed in Chapter VII along with the findings from the analysis of interview data.

E. INTERVIEW SCHEDULE

Interviews were scheduled at participating high schools during the instructional day, usually during the students' spares to ensure they did not miss a class. Interviews were approximately 35 - 40 minutes long, depending upon the student and the amount of information volunteered. In many cases, interviews were over an hour long.

Procedures seen as particularly important in securing valid interviews were used -- prior institutional contact, thorough knowledge of the specific sub-culture being investigated (in this case, the gifted student sub-culture), use of open-ended questioning techniques and the establishment of an unstructured atmosphere so that rapport with respondents was created. In using these procedures, it was anticipated that some of the biases that often occurred in very structured interview situations were eliminated.

It is still possible bias might have occurred despite awareness and attention to biasing factors; however, to the extent that bias could be minimized, efforts were so directed.

Interviews were based on the following questions:

(1) What are your general feelings about school?

(2) What specific aspects of schooling do you like and dislike? For what reasons? What things would you want to change if change were possible?

(3) What are your feelings about the curriculum with respect to its content and pace? Does it provide sufficient challenge at all levels of schooling and in the different subject areas? Does it appear to be relevant to you?

(4) Is the comment "school is boring" fact or fiction? If fact, what specific things make it boring? Are these elements consistent over the years or do they appear to change at different stages of schooling?

(5) What characteristics do you perceive to be those of the "ideal teacher"? In your opinion, does this teacher "make a difference" ?

(6) What are your perceptions of yourself as a student? as a learner? Does this perception seem to apply in

all skill areas?

(7) How do you feel about your own academic achievements? Do you feel you could do better? Have you ever experienced any pressure to be "the best" from parents, teachers or peers?

(8) What are your feelings about participation in gifted programs? Would you want to see similar programs at all levels of schooling? Would you personally want to participate if the option were made available?

(9) What are your goals and aspirations in life? What do you see as the four most important things in your life?

It was expected that student responses would reveal some of the structural constraints affecting student achievement and the way in which norms and values of the "achievement oriented" society had been internalized. It was also expected that inner tensions and the degree to which failure and success had been internalized would be revealed. It was important to determine how students defined themselves vis à vis the school system and how they internalized the structural demands placed upon them.

Field notes were kept for all interviews and analysis was based on interpretation and inferential explanation. Since objective data were obtained for each of these students as part of the first phase of the study, relationships between perceptions and objective data were sought, and inter and intra-group differences were found whenever possible through cross tabulation of SES and gender variables.

SUMMARY AND LIMITATIONS

The research study sought to establish a broad data base in order to examine the relationship between giftedness, SES and achievement variables for a group of "identified gifted" and "unidentified gifted" high school students. Quantitative and qualitative methodologies were used in the collection and analysis of data not only to obtain an objective view of the comparative profiles but also a subjective view as defined by students themselves. By using research procedures from both methodologies, the research study necessarily assumed the limitations of each, but also benefitted from their respective strengths.

One of the limitations inherent to qualitative methodology is the assumption that verbal responses to questions accurately reflect student attitudes and behaviours, an assumption that makes reliability and validity of responses somewhat problematic. Factors inherent to the interview, i.e., the interviewer, the situation and/or questions may have biased students sufficiently that they responded in a way they thought satisfied the interviewer. Since interviews were conducted in a school setting and were authorized by school personnel, students may have perceived an implicit authority structure and consequently, may have responded more positively than they might have in another situation.

Another limitation of qualitative research is the assumption that manifest achievement behaviours were congruent with expressed social attitudes, i.e., an assumed causality between achievement and attitude. As Lapiere (1970:94) explains:

> "All measurement of attitude...proceeds on the assumption that there is a mechanical relationship between symbolic and non-symbolic behaviour."

In other words, student responses may not have correlated with the realities they supposedly symbolized.

A third limitation is the assumption that students were affected in similar ways by somewhat similar social or structural situations. What may have been perceived as a handicap by one student may not have been so perceived by another and in fact, may have worked in opposite directions. It may have been that for some lower class students, their parent's low economic position became the driving force behind their pursuit of academic success whereas for other lower class students, the factor became an insurmountable barrier. The recognition that social forces affect individuals in different ways was acknowledged as it must be in any explanation offered for differential achievement. This limitation posed some difficulty in comparing expressed student opinions. Whether or not their perceptions reflected generalized inter-subjectivities or whether they were merely idiosyncratic in nature became a concern. Moreover, their perceptions might have been affected by local and/or regional factors and therefore, were not generalizable to other Canadian gifted student populations.

Other limitations relate to the study in general, one being the difficulty in comparing the effects, or lack thereof, of gifted programming on academic achievments of "identified gifted" and "unidentified gifted" students. Since neither group of students had been identified for earlier experimental treatment or comparative analysis, comparison at this stage of schooling became somewhat problematic. This was complicated by the fact that gifted programming in the school system was of a part-time nature and was offered only at the elementary school level, perhaps making programming insufficient to produce any positive effects on academic achievement. Differences in academic achievement between "identified gifted" and "unidentified gifted" groups could only be noted and effects imputed, making it difficult to attribute any differences in achievement to the effects of gifted programming with any degree of certainty. The literature seems to suggest that a positive effect would accompany the label of "giftedness" although the literature also suggests that extremely high expectations were placed on students for "gifted" performance at all times, resulting in increased pressure and anxiety, and hence, in poor self-concepts and relative underachievement. The effect of brief programming efforts as well as the label of "gifted" on achievement remain problematic.

Another limitation derives from the nature of secondary data in which the major weakness is one of adequate control. Since data were already available and were not generated solely for the purpose of this study, neither the test situation nor the instrumentation could be controlled to the extent normally possible in experimental design. Thus it could not be assumed that testing situations were similar or that achievement tests were evaluated according to the same criteria. Particularly with respect to teacher graded tests, consistency in evaluation standards could not be assumed because of the subjective biases known to affect teacher judgments of student performance.

The last limitation is that achievement was limited to success in school and did not extend into college or the work world. Therefore, whether or not gifted students "make it on their own" was limited to "making it" in school.

CHAPTER IV

SELECTION: SOCIAL OR PSYCHOMETRIC

This chapter summarizes the findings from the analysis of IQ data for "identified gifted" and "unidentified gifted" high school students in order to answer the following research question:

> Do gifted students actually maintain their IQ test scores in the gifted range, i.e. 130+ ? What kind of changes occur over time and are these changes the same for "identified gifted" and "unidentified gifted" students?

To answer this question, several stages of data analysis were necessary. The first involved a preliminary analysis of IQ data for grades 10, 11 and 12 students in order to find out whether or not "identified gifted" students actually maintained their IQ scores in the gifted range as well as to identify students for the various "unidentified gifted" comparison groups. Since grade 3 IQ scores were not available for the system aggregate, comparison groups were selected on the basis of grade 6 and/or 9 IQ scores.

The second stage of analysis required comparison of IQ test scores and emergent ability patterns for the respective sub-groups.

The chapter is organized into three major sections with each section devoted to the findings of the separate grade 10, 11 and 12 data analysis. Within each section, the findings from the preliminary analysis are discussed as well as the way in which the respective comparison groups were selected.

To prevent confusion and facilitate discussion of the findings, abbreviations are used to refer to the various comparison groups. These abbreviated referents are summarized below:

Grade 10 Identified Gifted -- 10IG
Grade 10 Unidentified Gifted Selected on the basis of grade 6 IQ scores -- 10UG6
Grade 10 Unidentified Gifted Selected on the basis of grade 9 IQ scores -- 10UG9

Grade 11 Identified Gifted -- 11IG
Grade 11 Unidentified Gifted Selected on the basis of grade 6 IQ scores -- 11UG6
Grade 11 Unidentified Gifted selected on the basis of grade 9 IQ scores -- 11UG9

Grade 12 Identified Gifted -- 12IG
Grade 12 Unidentified Gifted Selected on the basis of grade 6 IQ scores -- 12UG6
Grade 12 Unidentified Gifted Selected on the basis of grade 9 IQ scores -- 12UG9

SECTION I

GRADE 10 SUB-SAMPLE

A. PRELIMINARY ANALYSIS

To have been selected for participation in elementary gifted programs, students had to meet a number of formal identification criteria (see Chapter 3), one of which was an IQ score of 130+ obtained on a group or individual IQ test. Since individual testing was not mandatory, scores obtained on the group IQ tests routinely administered by District Y at the grades 3, 6 and 9 level were used for identification purposes. This particular group of grade 10 students wrote the Canadian Cognitive Abilities Test (CCAT) at all three grade levels and therefore, was the IQ test used to identify them for gifted programs. It was also the test used to identify students for the grade 10 "unidentified gifted" comparison groups.

To aid in the interpretation of IQ data for the grade 10 "identified gifted" and "unidentified gifted" groups, the means and standard deviations for the grade 3, 6 and 9 CCAT batteries for the grade 10 aggregate in District Y were required and are shown in Table 4.1 below.

TABLE 4.1

SYSTEM MEANS FOR THE CANADIAN COGNITIVE ABILITIES TEST
FOR THE GRADE 10 STUDENT POPULATION
IN DISTRICT Y

	VERBAL	QUANTITATIVE	NON-VERBAL
	X S.D.	X S.D.	X S.D.
GRADE 3 (1975/76)	107.1/15.3	103.5/15.7	102.4/15.4
GRADE 6 (1978/79)	105.4/15.0	101.5/14.4	104.3/14.8
GRADE 9 (1981/82)	106.3/14.0	107.4/15.2	111.1/15.9

As shown, there was considerable change between grades 3 and 9 with quantitative and non-verbal means showing a greater change over time than verbal means. Only non-verbal means showed a consistent increase between grades 3 and 9. Verbal and quantitative means declined slightly between grades 3 and 6 and increased between grades 6 and 9, quantitative means increasing substantially more than verbal means.

TABLE 4.2

COMPARISON OF SCORES ACROSS TIME, GRADE AND FORM
(SOURCE:CCAT TECHNICAL MANUAL,P.28)

Date	Grade	Level	Form	Verbal	Quantitative	Nonverbal
1971	7	E	CLT 1	98	-	106
1974	7	E	CLT 1	98	-	107
1977	2	P2	CCAT 1	104.5	-	-
1978	6	D	CCAT 1	100.9	-	102.1
	9	F	CCAT 1	104.2	-	104.7
1980	2	P2	CCAT 1	105.4	-	-
1981	6	D	CCAT 1	103.0	-	103.6
	9	F	CCAT 1	100.5	-	103.6
1982	4	B	CCAT 3	100.1	102.8	102.9
	7	E	CCAT 3	101.1	102.0	102.3
1983	4	B	CCAT 3	99.5	101.8	103.3
	7	E	CCAT 3	101.6	101.9	103.2
1984	4	B	CCAT 3	98.7	100.6	102.4
	7	E	CCAT 3	100.4	100.9	103.1

* CLT = Canadian Lorge Thorndike Test
CCAT = Canadian Cognitive Abilities Test

When compared to the standardization sample for the

CCAT, the grade 10 aggregate showed a greater change over the years than would have been expected. As shown in Table 4.2, there were some changes for the standardization sample but essentially the changes were well within a one or two point spread whereas the changes for the grade 10 aggregate were within a 6 to 9 point spread. The difference between the two samples can be accounted for by the fact that Table 4.2 refers to the stability of the test whereas Table 4.1 refers to the stability of scores for the same group of students over time. Results included in Table 4.2 were based on scores of students from one large school system in Canada with approximately 5000 students per grade (see CCAT Technical Manual, pp. 27-28). In 1974, 1977, 1980 and 1981, tests were given to a random sample of 1100 students while in 1978, tests were given to students in a random sample of schools. In 1982-84, all grade 4 and 7 students were tested.

It was expected, therefore, that "identified gifted" and "unidentified gifted" comparison groups would show similar changes between grades 6 and 9 as those shown by the grade 10 aggregate, i.e., verbal means would increase by approximately 1 point; quantitative means by approximately 6 points and non-verbal means by approximately 7 points. Furthermore, grade 6 CCAT means, with the exception of non-verbal means, would tend to be slightly lower than grade 3 means. Since medians were used for comparative purposes, it was expected that basic trends would be similar but that the magnitude of change might differ.

In order to interpret differences within - levels between "identified gifted" and "unidentified gifted" groups, the standard error of measurement (SEmeas) was taken into consideration. As indicated in Chapter 3 (see Table 3.9), the SEmeas varied between batteries and between levels but the largest SEmeas, i.e. ±4 (or 8 IQ points) was used to determine whether or not differences in medians between 10IG and 10UG groups were larger than expected. A difference >8 IQ points, regardless of battery or level, was considered to be significant.

With respect to differences between - levels, i.e., between grades 6 and 9, the SEdiff meas (standard error of measurement for different tests) at the 90% confidence level was used (see Chapter 3). Differences in medians between "identified gifted" and "unidentified gifted" groups larger than 9 IQ points for the verbal battery and 8 IQ points for the quantitative and non-verbal batteries were considered to be larger than those that could be attributed to chance. Interestingly enough, a one point difference is considered significant enough to label a child gifted or non-gifted as in the case of a child having an IQ score of 130 being labelled gifted and another child having an IQ score of 129 being labelled non-gifted. Even test developers urge caution in the interpretation of IQ scores, claiming that "only as differences become as great as 10 or 15 points can they be considered both statistically real and of some practical significance"

(Thorndike & Hagen 1973:21). This caution is disregarded by school districts when they use arbitrary cut-off scores for program placement. They interpret extremely small differences on IQ tests as having much greater significance than they really have, the consequence being that many students may be misidentified and/or mislabelled.

Table 4.3 shows the proportion of grade 10 students scoring >130 on the grades 6 and 9 CCAT sub-tests. Proportionately more scored >130 on one or more batteries in grade 9 than in grade 6 although this increase was expected given the general increase in IQ scores between grades 6 and 9 for the grade 10 aggregate.

TABLE 4.3

PROPORTION OF GRADE 10 STUDENTS IN DISTRICT Y SCORING 130+ ON GRADE 6 AND GRADE 9 CCAT *

	% Scoring 130+ on 1 Battery	% Scoring 130+ on 2 Batteries	% Scoring 130+ on 3 Batteries
GR 6 (1978/79)	(324/4490) 7.2%	(81/4490) 1.8%	(12/4490) .27%
GR 9 (1981/82)	(790/4093) 19.3%	(203/4093) 4.9%	(63/4093) 1.5%

* Percentages are based on the total number of students writing the CCAT in the school system, i.e., grade 6 percentages are based on a total of 4490 students and grade 9 percentages are based on a total of 4093 students.

A breakdown by battery shows that approximately three times as many students scored >130 on the grade 9 quantitative and non-verbal batteries as on the same batteries in grade 6 (see Table 4.4), again a realized expectation since quantitative and non-verbal means had increased by 6 and 7 IQ points respectively. Proportions scoring >130 on the verbal battery were similar at both grade 6 and 9 levels with only a 1.3% increase between grades. This means that if comparison groups followed the same trends, verbal scores would remain relatively constant while quantitative and non-verbal scores would increase.

TABLE 4.4

DISTRIBUTION OF GRADE 10 STUDENTS SCORING 130+
ON THE GRADES 6 AND 9 CCAT BY BATTERY *

	GRADE 6 1978/79	GRADE 9 1981/82
VERBAL	(225/4458) 5.0%	(256/4036) 6.3%
QUANTITATIVE	(118/4434) 2.7%	(320/3917) 8.2%
NON-VERBAL	(182/4421) 4.1%	(517/3917) 13.2%

* Total number of students writing the different test batteries varies because they were administered on different days and some students were absent during test administration.

B. COMPARISON GROUPS

On the basis of this preliminary analysis, students scoring 130+ on 2 or 3 batteries in grades 6 and 9 were identified and separated into two groups -- those who had participated in elementary gifted programs and those who had not. Of those who did not participate, two comparison groups were formed --one comprised of students scoring 130+ on two or three tests in grade 6 and one comprised of students scoring 130+ on two or three batteries in grade 9 (see Tables 4.3 and 4.5).

Of the 93 grade 10 students scoring >130 on two or three grade 6 CCAT sub-tests, 39 had participated in elementary gifted programs, i.e., the grade 10 "identified gifted" (10IG), and the remaining 54 had not. These 54 students (24 male/30 female) comprised the first "unidentified gifted" comparison group (10UG6).

TABLE 4.5

DISTRIBUTION OF GRADE 10 STUDENTS SCORING 130+
IN GRADE 6 (1978/79) AND GRADE 9 (1981/82)

	GRADE 6 N WRITING TEST=4490			GRADE 9 N WRITING TEST=4093		
	10IG	10UG	TOTAL	10IG	10UG	TOTAL
O SCORES >130	64			41		
1 SCORE >130	46	278	324	21	471	492
2 SCORES >130	32	49	81	37	166	203
		-54 (10UG6)			-200 (10UG9)	
3 SCORES >130	7	5	12	29	34	63
TOTALS	149	332	417	128	671	758

Of the 266 grade 10 students scoring >130 on two or three grade 9 CCAT batteries, 66 had participated in elementary gifted programs and the remaining 200 (105 male/95 female) had not. They comprised a second, grade 10 "unidentified gifted" comparison group (10UG9). There was a moderate overlap between the two comparison groups with 15% (or 30) of the 10UG6 sub-group also being part of the 10UG9 sub-group. The greatest proportion of the 10UG9 sub-group, however, was comprised of students showing a "sudden spurt" in IQ test performance between grades 6 and 9.

In summary, the sample size of the first comparison group (10UG6) was 54 and the sample size of the second comparison group (10UG9) was 200. This compared to an initial sample size of 171 for the grade 10 "identified gifted" group although by the end of grade 6, 149 were still in the system and by the end of grade 9, only 128 remained -- a loss of 25% of the original 10IG group.

B.1. GRADE 10 "IDENTIFIED GIFTED"

Of the 149 "identified gifted" students writing the CCAT in grade 6, 64 or 42.9% did not have any of their CCAT battery scores >130 (see Table 4.5). 46 or 30.9% had only one battery score >130 and the remaining 39 or 26.2% had two or three scores >130. The proportions were higher in grade 9 with approximately twice as many scoring >130 on two or three CCAT batteries as scored in grade 6 (51.6%) but this still left a third (32%) with no scores >130. Based on these findings, if gifted programs had been offered at the junior or senior high school level, and if identification had been based on an IQ cut-off score of 130 on the CCAT, then approximately 32% - 42% of the students identified as gifted in the primary grades would not have qualified for programming in the later grades.

Table 4.6 shows their IQ performance at the time of selection as gifted by District Y. As shown, mean IQ performance on the individual IQ test (WISC-R or Stanford Binet) and/or the group ability test (CCAT) was >130 with the exception of the CCAT quantitative and non-verbal batteries. For the 42.3% identified on the basis of the CCAT, verbal scores were higher than quantitative and non-verbal scores by 6 and 11 IQ points respectively. These discrepancies were approximately twice as large as those found for the system aggregate (i.e., 3.6 IQ points between verbal and quantitative means and 4.7 IQ points between verbal and non-verbal means). The discrepancy between verbal and non-verbal batteries was larger than sampling variability would have predicted, indicating that the difference was larger than could be attributed to chance.

Further analysis of grade 3 IQ scores for 10IG students shows that of the 42.3% (or 47/111) identified on the basis of CCAT scores, 21.3% (or 10/47) did not have any scores >130. A third (or 16/47) had only one CCAT score >130, another third (or 17/47) had two scores >130 and only 8.5% (or 4/47) had three battery scores >130.

TABLE 4.6

GRADE 3 IQ SCORES FOR GRADE 10
"IDENTIFIED GIFTED" STUDENTS*

IQ TEST	N (N=111)	MEAN	S.D.
CCAT			
. VERBAL	47	132.4	9.2
. QUANTITATIVE	47	126.0	10.0
. NON-VERBAL	47	121.1	11.0
WISC - R	60	136.8	7.9
STANFORD BINET	4	133.3	6.7

* Missing Data: N= 36

Of the 57.7% (or 64/111) identified on the basis of WISC-R or Stanford Binet IQ scores, 17.2% (or 11/64) scored <130 with scores ranging between 121 and 129. In total, 18.9% (or 21/111) had IQ scores lower than 130 at the time of identification. Since grade 3 scores were unavailable for 24.5% (or 36/149), it is possible that an even greater proportion scored <130, partly explaining the high proportion of 10IG students scoring <130 on the grades 6 (42.9%) and 9 (32%) CCAT batteries although regression effects were also operational.

Similar to the changes between grades 3 and 6 for 10IG students, the changes between grades 6 and 9 followed the same pattern of change established by the system aggregate (see Table 4.7). Verbal medians remained the same (i.e., 128) whereas quantitative and non-verbal medians increased by 6 and 9.5 IQ points respectively, this increase equalling that of the system aggregate in quantitative scores but surpassing it in non-verbal scores. This change is what would have been expected given the system trends although it is not what would have been expected by those who erroneously believe that IQ scores remain constant over time. For them, giftedness means having an IQ score of 130+, regardless of time and age. Since 32% - 42% of the "identified gifted" students scored <130 in grades 6 and 9, this means that either the definition, or their giftedness, was to be questioned.

Another important finding was that at the elementary

TABLE 4.7

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES FOR GRADE 10 IDENTIFIED GIFTED STUDENTS (10IG)

IQ CATEGORY	GR6 V N=144	GR9 V N=132	GR6 Q N=145	GR9 Q N=128	GR6 NV N=145	GR9 NV N=128
< 100	0	0	2 (1.4%)	0	3 (2.1%)	0
100 - 109	0	1 (.8%)	19 (13.1%)	6 (4.7%)	26 (17.9%)	6 (4.7%)
110 - 119	22 (15.3%)	32 (24.2%)	48 (33.1%)	22 (17.2%)	45 (31.0%)	26 (20.3%)
120 - 129	59 (40.9%)	40 (30.3%)	37 (25.5%)	42 (32.8%)	44 (30.3%)	34 (26.6%)
130 - 139	47 (32.6%)	46 (34.8%)	33 (22.8%)	51 (39.8%)	21 (14.5%)	31 (24.2%)
140+	16 (11.1%)	13 (9.8%)	6 (4.1%)	7 (5.5%)	6 (4.1%)	31 (24.2%)
X	128.4	127.3	121.2	127.1	119.5	129.2
MEDIAN	128	128	121	127	119	128.5
S.D.	8.9	9.6	11.0	9.6	10.8	11.9

TABLE 4.7.1

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES FOR GRADE 10 IDENTIFIED GIFTED (10IG) FEMALES

IQ CATEGORY	GR6 V N=82	GR9 V N=74	GR6 Q N=82	GR9 Q N=73	GR6 NV N=82	GR9 NV N=73
< 100	0	0	2 (2.4%(	0	3 (3.7%)	0
100 - 109	0	0	15 (18.3%)	4 (5.5%)	19 (23.2%)	4 (5.5%)
110 - 119	15 (18.3%	19 (25.7%)	22 (26.8%)	14 (19.2%)	22 (26.8%)	13 (17.8%)
120 - 129	34 (41.5%)	22 (29.7%)	19 (23.2%)	21 (28.8%)	22 (26.8%)	21 (28.8%)
130 - 139	24 (29.3%)	22 (29.7%)	22 (26.8%)	30 (41.1%)	13 (15.9%)	16 (21.9%)
140+	9 (10.9%)	11 (14.9%)	2 (2.4%)	4 (5.5%)	3 (3.7%)	19 (26.0%)
X	127.7	127.5	120.5	127	118.8	129.4
MEDIAN	126	127.5	121	127	119	129
S.D.	9.6	10.5	11.4	9.9	11.5	11.5

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES GRADE 10 IDENTIFIED GIFTED (10IG)MALES

IQ CATEGORY	GR6 V N=62	GR9V N=58	GR6 Q N=63	GR9 Q N=55	GR6 NV N=63	GR9 NV N=55
< 100	0	0	0	0	0	0
100 - 109	0	1 (1.7%)	4 (6.3%)	2 (3.6%)	7 (11.1%)	2 (3.6%)
110 - 119	7 (11.3%)	13 (22.4%)	26 (41.3%)	8 (14.5%)	23 (36.5%)	13 (23.6%)
120 - 129	25 (40.3%)	18 (31.0%)	18 (28.6%)	21 (38.2%)	22 (34.9%)	13 (23.6%)
130 - 139	23 (37.1%)	24 (41.4%)	11 (17.5%)	21 (38.2%)	8 (12.7%)	15 (27.5%)
140+	7 (11.3%)	2 (3.4%)	4 (6.3%)	3 (5.5%)	3 (4.8%)	12 (21.8%)
X	129.4	127.1	122	127.3	120.6	129.6
MEDIAN	128	128.5	120	127	120	128
S.D.	7.8	8.4	10.4	9.4	9.7	12.5

level, quantitative and non-verbal scores were not as high as verbal scores, demonstrated by the large differentials between medians and proportions scoring >130 on the respective batteries, i.e., 43.7% scoring >130 on the verbal, 26.9% on the quantitative and 18.5% on the non-verbal. (See Tables 4.6 and 4.7) Because the differentials between verbal and non-verbal medians exceeded the bounds of sampling variability, it can be concluded there was a substantial difference between verbal and non-verbal abilities for the grade 10 "identified gifted" students in the elementary grades.

At the junior high school level, performance evened out with verbal and quantitative performance being separated from non-verbal performance by a mere .5 - 1 point differential.

In summary, grade 10 "identified gifted" students demonstrated the same pattern, and essentially the same magnitude, of change in IQ performance between grades 6 and 9 as the system aggregate and therefore did not deviate from statistical expectation. The instability of test scores between different test administrations clearly underlines the problems associated with the use of cut-off scores to label and/or designate students as gifted or non-gifted yet conventional procedures assume that a score of 130 delineates them. Since a substantial proportion of the grade 10 "identified gifted" students scored <130 in grade 6 and 9, their giftedness, at least in the conventional sense, is questionable although the giftedness of another

19% (21/111) is also questionable since they had not met the 130+ IQ criterion at the time of identification. This finding, therefore, not only questions the use of IQ cut-off scores for identification purposes but also questions the role non-cognitive variables and teacher's definitions play in the identification process.

B.2. GRADE 10 "UNIDENTIFIED GIFTED"

(i) SAMPLE CHARACTERISTICS

Comparison groups of grade 10 "unidentified gifted" students were formed on the basis of IQ scores on the grades 6 and 9 CCAT with 10UG6 being comprised of students scoring 130+ on 2 or 3 of the CCAT batteries in grade 6 and 10UG9 being comprised of those scoring 130+ on two or three CCAT batteries in grade 9. 10UG6 had a total of 54 students (24 male/30 female) and 10UG9 had a total of 200 students (105 male/95 female). Thirty (or 55.6%) of the 10UG6 students were also part of the 10UG9 sub-group although in total, they constituted only 15% of the 10UG9 sub-group, the other 85% being comprised of two groups of students -- those whose grade 6 IQ scores were <130 (N=137) and those moving into the system during junior high (N=33). Of those whose grade 6 IQ scores were <130, 77 students (77/200 or 38.5%) of the total 10UG9 sub-group did not have any IQ scores >130 in grade 6 whereas 60 students (60/200 or 30%) had one score >130. This means that for slightly more than 2/3 of the 10UG9 sub-group, IQ scores increased sufficiently between grades 6 and 9 to enable them to have 2 or 3 IQ battery scores >130 in grade 9 and therefore, to emerge as "gifted" in junior high school. Males showed the greater increase with 67.6% moving from the two lowest IQ categories, i.e., no scores >130 and one score >130, compared to 62% for females.

Of the 54 10UG6 students scoring 130+ on 2 or 3 CCAT batteries in grade 6, only three (2 female/1 male) moved out of the system prior to grade 9 leaving 51 "unidentified gifted" students still in the system and for whom data were available.

B. 3. COMPARATIVE LEVELS OF PERFORMANCE

Figure 4.1 shows the comparative levels of IQ performance in grades 6 and 9 for 10IG, 10UG6 and 10UG9 sub-groups. As shown, a number of important differences emerged between groups, primarily in the pattern of mental abilities and in the pattern of change between grades 6 and 9. (See also Tables 4.7, 4.8 and 4.9)

The first difference lay in the relative strengths of "identified gifted" and "unidentified gifted" students at the different grade levels (see Table 4.10). Within-group comparison showed that 10IG students scored substantially higher on verbal batteries than on quantitative and non-verbal batteries in grades 3 and 6 with differentials between medians exceeding sampling variability. At the

FIGURE 4.1

ABILITY PROFILES OF GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

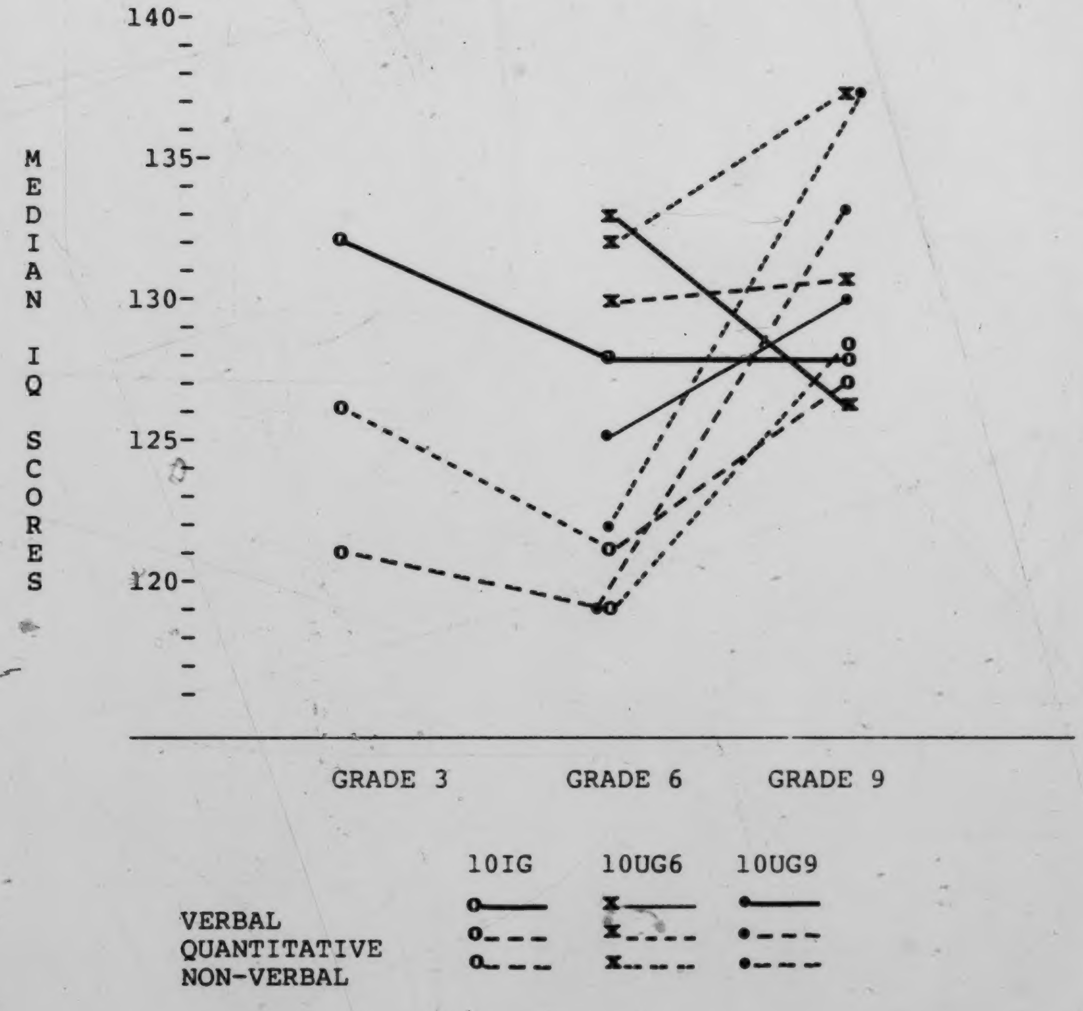


TABLE 4.8

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG6)

IQ CATEGORY	GR.6 V N=54	GR.9 V N=49	GR.6 Q N=54	GR.9 Q N=49	GR.6 N.V. N=54	GR.9 N.V. N=49
LESS)100	0	0	0	1 (2.0%)	0	0
100 - 109	1 (1.9%)	1 (2.0%)	1 (1.9%)	0	0	1 (2.0%)
110 - 119	3 (5.6%)	10 (20.4%)	9 (16.7%)	1 (2.0%)	8 (14.8%)	5 (10.2%)
120 - 129	9 (16.7%)	18 (36.7%)	10 (18.5%)	18 (36.7%)	6 (11.1%)	12 (24.5%)
130 - 139	33 (61.1%)	15 (30.6%)	26 (48.1%)	26 (53.1%)	36 (66.7%)	9 (18.4%)
140 +	8 (14.8%)	5 (10.2%)	6 (11.1%)	3 (6.1%)	4 (7.4%)	22 (44.9%)
MEAN	131.9	127.4	128.4	130.0	130.4	135.2
MEDIAN	133.0	126.0	130.0	131.0	132.0	137.0
S.D.	8.98	10.34	9.73	7.95	7.81	11.43

TABLE 4.8.1

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG6) FEMALES

IQ CATEGORY	GR6 V N=30	GR9 V N=27	GR6 Q N=30	GR9 Q N=27	GR6 NV N=30	GR9 NV N=27
< 100	0	0	0	0	0	0
100 - 109	0	0	1 (3.3%)	0	0	0
110 - 119	2 (6.7%)	6 (22.2%)	5 (16.7%)	0	4 (13.3%)	1 (3.7%)
120 - 129	6 (20.0%)	10 (37.0%)	6 (20.0%)	12 (44.4%)	5 (16.7%)	5 (18.5%)
130 - 139	15 (50.0%)	7 (25.9%)	14 (46.7%)	14 (51.9%)	19 (63.3%)	7 (25.9%)
140+	7 (23.3%)	4 (14.8%)	4 (13.3%)	1 (3.7%)	2 (6.7%)	14 (51.9%)
MEAN	133	128.5	128.8	130.1	130.5	138.9
MEDIAN	133	126	130	130	133	140
S.D.	9.4	10.7	9.2	5.4	7.8	9.9

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG6) MALES

IQ CATEGORY	GR6 V N=24	GR9 V N=22	GR6 Q N=24	GR9 Q N=22	GR6 NV N=24	GR9 NV N=22
< 100	0	0	0	1 (4.5%)	0	0
100 - 109	1 (4.2%)	1 (4.5%)	0	0	0	1 (4.5%)
110 - 119	1 (4.2%)	4 (18.2%)	4 (16.7%)	1 (4.5%)	4 (16.7%)	4 (18.2%)
120 - 129	3 (12.5%)	8 (36.4%)	4 (16.7%)	6 (27.3%)	1 (4.2%)	7 (31.8%)
130 - 139	18 (75.0%)	8 (36.4%)	12 (50.0%)	12 (54.5%)	17 (70.8%)	2 (9.1%)
140+	1 (4.2%)	1 (4.5%)	2 (8.3%)	2 (9.1%)	2 (8.3%)	8 (36.4%)
MEAN	130.6	126.1	127.9	129.9	130.3	130.7
MEDIAN	133	127	130	133	132	129
S.D.	8.4	10.0	10.5	10.4	7.9	11.8

TABLE 4.9

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG9)

IQ CATEGORY	GR6 V N=165	GR9 V N=200	GR6 Q N=163	GR9 Q N=200	GR6 MV N=163	GR9 MV N=200
< 100	2 (1.2%)	2 (1.0%)	0	1 (.5%)	2 (1.2%)	1 (.5%)
100 - 109	6 (3.6%)	9 (4.5%)	16 (9.8%)	3 (1.5%)	9 (5.5%)	1 (.5%)
110 - 119	32 (19.4%)	38 (19.0%)	66 (40.5%)	8 (4.0%)	53 (32.5%)	8 (4.0%)
120 - 129	77 (46.7%)	44 (22.0%)	52 (31.9%)	36 (18.0%)	54 (33.1%)	16 (8.0%)
130 - 139	40 (24.2%)	88 (44.0%)	28 (17.2%)	141 (70.5%)	38 (23.3%)	98 (49.0%)
140 +	8 (4.8%)	19 (9.5%)	1 (.6%)	11 (5.5%)	7 (4.3%)	76 (38.0%)
MEAN	124.8	126.9	120.5	131.5	122.7	136.4
MEDIAN	125	130	119	133	122	137
S.D.	9.7	11.1	8.4	7.2	9.5	8.7

TABLE 4.9.1

DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG9) FEMALES

IQ CATEGORY	GR6 V N=81	GR9 V N=95	GR6 Q N=78	GR9 Q N=95	GR6 MV N=78	GR9 MV N=95
< 100	0	1 (1.1%)	0	1 (1.1%)	1 (1.2%)	1 (1.1%)
100 -109	3 (3.7%)	3 (3.2%)	7 (8.9%)	1 (1.1%)	3 (3.8%)	1 (1.1%)
110 - 119	17 (20.9%)	11 (11.6%)	33 (42.3%)	5 (5.3%)	20 (25.6%)	1 (1.1%)
120 - 129	35 (43.2%)	23 (24.2%)	26 (33.3%)	22 (23.2%)	27 (34.6%)	5 (5.3%)
130 - 139	19 (23.5%)	45 (47.4%)	12 (15.4%)	61 (64.2%)	23 (29.5%)	45 (47.4%)
140+	7 (8.6%)	12 (12.6%)	0	5 (5.3%)	4 (5.1%)	42 (44.2%)
MEAN	125.7	128.9	120.1	130.4	124.4	137.6
MEDIAN	125	131	119	132	122	137
S.D.						

. DISTRIBUTION OF GRADE 6 AND 9 CCAT SCORES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG9) MALES

IQ CATEGORY	GR6 V N=84	GR9 V N=105	GR6 Q N=85	GR9 Q N=105	GR6 MV N=85	GR9 MV N=105
< 100	2 (2.4%)	1 (.9%)	0	0	1 (1.1%)	0
100 - 109	3 (3.6%)	6 (5.7%)	9 (10.6%)	2 (1.9%)	6 (7.1%)	0
110 - 119	15 (17.9%)	27 (25.7%)	33 (38.8%)	3 (2.9%)	33 (38.8%)	7 (6.7%)
120 - 129	42 (50.0%)	21 (20.0%)	26 (30.6%)	14 (13.3%)	27 (31.8%)	11 (10.5%)
130 - 139	21 (25.0%)	43 (40.9%)	16 (18.8%)	80 (76.2%)	15 (17.6%)	53 (50.5%)
140+	1 (1.2%)	7 (6.7%)	1 (1.2%)	6 (5.7%)	3 (3.5%)	34 (32.3%)
MEAN	124	125.1	120.9	132.6	121.2	135.2
MEDIAN	125	128	120	134	121	136
S.D.	9.5	11.3	9.0	6.9	8.7	8.4

junior high school level, performance on all three batteries was similar with differentials only .5 to 1 IQ point apart. This means that "identified gifted" students, relative to their own performance, were superior in verbal abilities in the elementary grades although their superiority was not maintained in junior high. 10UG6 students, on the other hand, showed the reverse pattern. At the elementary level, performance was similar on all batteries whereas at the junior high school level, non-verbal performance was decidedly stronger than verbal performance with an 11 point differential between medians. 10UG9 students showed a similar pattern to 10UG6 students although the differential between verbal and non-verbal medians in grade 9 (8 IQ points) did not exceed sampling error. Their proportion scoring >130 on the non-verbal battery (87%) compared to their proportion scoring >130 on the verbal battery (53.5%), however, would suggest a non-verbal superiority (see Table 4.11). "Unidentified gifted" students, therefore, showed even performance on all batteries in the elementary grades and a non-verbal superiority in the junior high school grades. This permits the conclusion that there was a difference in the pattern of mental abilities between 10IG and 10UG students.

Between-group comparison showed that "identified gifted" and "unidentified gifted" students differed from each other in terms of non-verbal abilities demonstrated by the substantially higher non-verbal performance by 10UG6 students in grades 6 and 9 and by 10UG9 students in grade

9. 10UG6 students also differed from 10IG students on the grade 6 quantitative battery with the differential between medians exceeding sampling error. All other medians between "identified gifted" and "unidentified gifted" students were within a 3 to 5 point spread of each other, well within the limits of sampling variability. Thus, at the grade 6 level, there was a difference between 10IG and 10UG6 students with 10UG6 students scoring substantially higher than 10IG students on quantitative and non-verbal batteries and at the grade 9 level, with both groups of 10UG students scoring higher on non-verbal batteries.

TABLE 4.10

PROPORTIONS OF GRADE 10 "IDENTIFIED GIFTED"
AND "UNIDENTIFIED GIFTED" SCORING >130 IN GRADES 6 AND 9

	10IG	10UG6	10UG9
GRADE 6 VERBAL	43.7%	75.9%	29.0%
GRADE 9 VERBAL	44.6%	40.8%	53.5%
GRADE 6 QUANTITATIVE	26.9%	59.2%	17.8%
GRADE 9 QUANTITATIVE	45.3%	59.2%	76.0%
GRADE 6 NON-VERBAL	18.6%	74.1%	27.6%
GRADE 9 NON-VERBAL	48.4%	63.3%	87.0%

The other major difference between grade 10 "identified gifted" and "unidentified gifted" students emerged with their respective patterns of change between grades 6 and 9. Whereas 10IG students showed the same pattern and degree of change as the grade 10 aggregate (see Table 4.1), 10UG6 and 10UG9 students differed. On the one hand, 10UG6 students showed an inconsistent pattern of change. Verbal medians decreased by 7 IQ points, quantitative medians stabilized and non-verbal medians increased by 5 IQ points. In light of the general increase for the grade 10 aggregate, their basic pattern of change was downwards. Regression effects were noted.

TABLE 4.11

SUMMARY TABLE OF IQ MEDIANS FOR GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

	10IG	10UG6	10UG9
GRADE 6 VERBAL	128^	133	125
GRADE 9 VERBAL	128	126^	130
GRADE 6 QUANTITATIVE	121	130*	119
GRADE 9 QUANTITATIVE	127	131	133
GRADE 6 NON-VERBAL	119^	132*	122
GRADE 9 NON-VERBAL	128.5	137*^	137*

* - indicates a between-group difference > 8 IQ points
^ - indicates a within-group difference >8 IQ points

On the other hand, 10UG9 students, showed a consistent increase between grades 6 and 9 although their increase was larger than expected. Verbal medians increased by 5 IQ points, quantitative medians by 14 IQ points and non-verbal medians by 15 IQ points, increases twice as large for the grade 10 aggregate. This change in IQ performance between grades 6 and 9 suggests that developmental and/or curricular factors may have been operational since the change was larger than statistical expectation; however, the change reflects a difference in test scores and not necessarily a difference in the "amount" of ability since IQ scores were relative to group norms at given age levels.

B. 4. COMPARATIVE LEVELS OF MALE AND FEMALE PERFORMANCE

Reference to Tables 4.12 and 4.13 shows that when gender was controlled, few differences emerged between or within "identified gifted" and "unidentified gifted" gender groups and that the same basic trends which were established by 10IG and 10UG aggregates were similarly found for 10IG and 10UG males and females.

As shown in Table 4.12, 10UG6 females showed substantially higher IQ scores than 10IG females in the grade 6 quantitative and grades 6 and 9 non-verbal batteries with differentials of 9 to 11 IQ points. All other differentials were less than 6 IQ points and were smaller in grade 9 than they were in grade 6.

TABLE 4.12

SUMMARY TABLE OF IQ MEDIANS FOR GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" FEMALES

	10IG	10UG6	10UG9
GRADE 6 VERBAL	126	133	125
GRADE 9 VERBAL	127.5	126	131
GRADE 6 QUANTITATIVE	121	130*	119
GRADE 9 QUANTITATIVE	127	130	132
GRADE 6 NON-VERBAL	119	133*	122
GRADE 9 NON-VERBAL	129	140*	137

* - indicates a difference > 8 IQ points between 10IG 10UG students

No differences were found between 10IG and 10UG9 females at either grade level although differentials between medians more than doubled in grade 9, the differential between non-verbal medians being the largest (8 IQ points).

Males similarly resembled each other with most differentials between groups being less than 9 IQ points and ranging from .5 to 8 IQ points. There was a difference between groups on the grade 6 quantitative and non-verbal batteries with 10UG6 males scoring substantially higher than either 10IG or 10UG9 males (see Table 4.13).

TABLE 4.13

SUMMARY TABLE OF IQ MEDIANS FOR GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" MALES

	10IG	10UG6	10UG9
GRADE 6 VERBAL	128	133	125
GRADE 9 VERBAL	128.5	127	128
GRADE 6 QUANTITATIVE	120	130*	120
GRADE 9 QUANTITATIVE	127	133	134
GRADE 6 NON-VERBAL	120	132*	121
GRADE 9 NON-VERBAL	128	129	136

* - indicates a difference >8 IQ points between 10IG & 10UG students

With respect to the difference between 10IG and 10UG9 males, none of the differentials between medians in grades 6 or 9 exceeded 8 IQ points although the differentials were larger in grade 9 than in grade 6 with the exception of the verbal median.

C. SUMMARY

Analysis of IQ data for grade 10 "identified gifted" and "unidentified gifted" students showed a number of important differences primarily in the pattern of performance and in the pattern of change between grades 6 and 9. At the elementary level, "identified gifted" students tended to show superior verbal performance relative to quantitative and non-verbal performance, reflected both in differentials between medians and in proportions scoring >130. Verbal scores were higher in grade 3 than they were in grades 6 and/or 9 with fewer than half scoring >130 in the later grades. Quantitative and non-verbal scores, on the other hand, increased between grades 6 and 9, resulting in more equal performance in verbal, quantitative and non-verbal batteries at the grade 9 level. Their demonstrated IQ performance between grades 3 and 9 suggests that either their abilities developed at different rates with verbal abilities developing sooner than quantitative and non-verbal abilities, or that CCAT batteries were poorly calibrated.

"Unidentified gifted" students showed a different pattern of change between grades 6 and 9. On the one hand, 10UG6 students showed a general regression towards the mean with scores lower in grade 9 than in grade 6, the exception being their non-verbal scores. Despite their lower scores, they out-performed 10IG students at both levels and differed substantially from them in the grade 6 quantitative, grade 6 non-verbal and grade 9 non-verbal battery.

In comparison, 10UG9 students showed an increase in IQ performance which was more than twice that of the system aggregate and that of the 10IG students. In grade 6, 10UG9 and 10IG groups were similar with relatively small differentials between medians. In grade 9, 10UG9 students showed a spurt in IQ performance with all differentials increasing between groups but with a difference between groups being found only on the non-verbal battery. Compared to "identified gifted" students, "unidentified gifted" students had substantially superior non-verbal scores, particularly at the grade 9 level. There were no differences between groups with respect to verbal abilities yet it was these abilities in which "identified gifted" students excelled, suggesting it was their verbal precocity which initially helped identify them as gifted. Since 10UG9 students showed an increase in verbal abilities between grades 6 and 9, it is not unreasonable to assume that 10UG6 students showed a similar increase between grades 3 and 6. This suggests that developmental factors as well as the age of students affected the identification process. In this case, 10IG students appeared to be the "early bloomers" and 10UG6 and 10UG9 students, the "late bloomers".

In summary, the findings clearly showed that IQ scores were not constant over time and that different groups of students emerged as gifted at different stages of development, questioning not only the use of IQ cut-off scores but also the notion of a "reasonable and coherent category of individuals who should be labelled "gifted" (Robinson 1977:4).

SECTION II

GRADE 11 SUB-SAMPLE

A. PRELIMINARY ANALYSIS

Unlike the grade 10 students, grade 11 students wrote two different IQ tests, i.e., the Lorge Thorndike in grades 3 and 6 and the CCAT in grade 9. This required cautious interpretation and limited analysis to description of within-grade and within-group performance. Despite this problem, analysis of IQ data was necessary for two reasons: (1) to identify students for "unidentified gifted" comparison groups and (2) to follow-up the IQ performance of grade 11 "identified gifted" students.

TABLE 4.14

PROPORTION OF GRADE 11 STUDENTS SCORING 130+
ON GRADES 6 AND 9 GROUP ABILITY TESTS

	%SCORING 130+ on 1 Battery	%SCORING 130+ on 2 Batteries	%SCORING 130+ on 3 Batteries
1977/78 GR6 LT	(507/4454) 11.4%	(82/4454) 1.8%	n/a
1980/81 GR9 CCAT	(445/4110) 10.8%	(178/4110) 4.3%	(49/4110) 1.2%

Table 4.14 shows the proportion of grade 11 students scoring >130 on the grades 6 and 9 IQ tests. A breakdown by battery shows that in grades 6 and 9, approximately two to three times as many students scored >130 on the non-verbal battery as scored on the verbal battery (see Table 4.15), suggesting that non-verbal scores were generally higher

than verbal scores. Since means for the grade 6 batteries were not available for the system aggregate, it was assumed that this was in fact the case. Three different findings permit this assumption, these being: (1) two to three times as many students scored >130 on the non-verbal battery as on the verbal battery in grade 6 and 9; (2) there was a differential of 12 - 13 IQ points between grade 9 LT verbal and non-verbal means for two previous grade groups (see Table 4.16) and (3) the standard deviation (15.9 / 16.2) and SEmeas (±6) for the LT non-verbal compared to the LT verbal (±4) were larger. Thus, it was expected that grade 11 students would score higher on non-verbal than on verbal batteries in both grades 6 and 9. Exactly how much higher was unknown although at the grade 9 level, as shown in Table 4.16, the difference between CCAT verbal and non-verbal means for the grade 11 aggregate was 4 IQ points. If grade 11 "identified gifted" and "unidentified gifted" comparison groups followed the same pattern of IQ performance as the aggregate, then it was expected that non-verbal scores would be higher than verbal scores and that at the grade 9 level, there would be approximately a 4 point differential.

To interpret within-level differences, the SEmeas was used, i.e. ±4 for the Lorge Thorndike verbal battery and ±6 for the non-verbal battery. The SEmeas for the CCAT was ±4 for all three batteries (see Chapter 3).

TABLE 4.15

DISTRIBUTION OF GRADE 11 STUDENTS SCORING 130+ ON THE GRADES 6 AND 9 GROUP ABILITY TESTS BY BATTERY

	GRADE 6 1977/78 (LT)	GRADE 9 1980/81 (CCAT)
VERBAL	(156/4436)* OR 3.5%	(212/4410) OR 4.8%
QUANTITATIVE	N/A	(285/4410) OR 6.5%
NON-VERBAL	(517/4413) OR 11.7%	(443/4410) OR 10.1%

TABLE 4.16

SYSTEM MEANS FOR THE GRADE 9 GROUP ABILITY TESTS

	VERBAL X S.D.	QUANTITATIVE X S.D.	NON-VERBAL X S.D.
1982/83	107.2/14.2	108.9/15.3	112.8/15.9
1981/82	106.3/14.0	107.4/15.2	111.1/15.9
1980/81 *	105.8/13.9	106.5/15.4	109.6/15.9
1979/80 **	101.3/13.9	--	114.0/16.2
1978/79	101.5/13.9	--	113.7/15.9

* indicates the year grade 11 students were in grade 9
**indicates the year grade 12 students were in grade 9

B. COMPARISON GROUPS

On the basis of this preliminary analysis, students scoring >130 on 2 or 3 batteries in grades 6 and/or 9 were separated into two groups -- those who had participated in elementary gifted programs and those who had not. Of those who did not participate, two comparison groups were formed -- one comprised of students scoring >130 on both LT batteries in grade 6 and one comprised of students scoring >130 on two or three CCAT batteries in grade 9 (see Table

4.17).

TABLE 4.17

DISTRIBUTION OF GRADE 11 STUDENTS SCORING 130+
IN GRADE 6 (1977/78) AND GRADE 9 (1980/81)

	GRADE 6 N WRITING TEST=4436			GRADE 9 N WRITING TEST=4410		
	%IG	%UG	TOTAL	%IG	%UG	TOTAL
No Scores>130	32 (29.4%)			26 (25.0%)		
%Scoring 130+ on 1 Battery	47 (43.1%)	460 (89.8%)	507	28 (26.9%)	417 (70.2%)	445
%Scoring 130+ on 2 Batteries	30 (27.5%)	52* (10.2%)	82	31 (29.8%)	147^ (24.7%)	178
			(11UG6)		-50	177 (11IG9)
%Scoring 130+ on 3 Batteries	N/A			19 (18.3%)	30 (5.1%)	49
TOTALS	109	512	589	104	594	672

* indicates 11UG6 sub-group; ^ indicates 11UG9 sub-group

The 11UG6 sub-group (N=52) was comprised of those scoring 130+ on both Lorge Thorndike batteries in grade 6, and the 11UG9 sub-group (N=177) was comprised of those scoring 130+ on 2 or 3 CCAT batteries in grade 9. Similar to the grade 10 "unidentified gifted" comparison groups, there was a moderate overlap between 11UG6 and 11UG9 sub-groups with 50% (or 26/52) of the 10UG6 sub-group being part of the 10UG9 sub-group. They comprised only 15% of the 11UG9 sub-group with the remaining 85% (151/177) being comprised of those scoring <130 on the grade 6 LT batteries and those moving into the system during junior high. Analysis of individual IQ data showed that of this 85%, 15%

(or 23/151) moved into the system during junior high and the remaining 85% (or 128/151) increased their grade 6 IQ scores sufficiently to obtain 130+ on 2 or 3 grade 9 CCAT batteries. Similar to the 10UG9 sub-group, approximately 2/3 of the 11UG9 sub-group showed a sudden spurt in IQ performance between grades 6 and 9.

B. 1. GRADE 11 "IDENTIFIED GIFTED"

Though 127 grade 11 students (69 male/58 female) had originally been identified for gifted programming during the elementary grades, only 109 (60 male/49 female) remained in the system in grade 6 and 104 in grade 9, constituting a loss of 18.1%. Table 4.17 shows that of the 109 in the system in grade 6, 70.6% (or 77/109) scored >130 on one or both LT batteries. Of the 104 in the system in grade 9, 75% (or 78/104) scored >130 on one or more CCAT batteries. This means that slightly more than a 1/4 of the "identified gifted" students scored below the 130 cut-off score in grades 6 and 9 and by definition, would no longer qualify as gifted.

Their generally lower performance was particularly evident in the change in proportions scoring >130 on the verbal battery (see Table 4.18). In grade 3, approximately 80% scored >130 whereas in grade 6, only 40% did. Since grade 3 and 6 IQ scores were based on the LT, this change represents a regression towards the mean. Grade 9 proportions were similar to those in grade 6 but because

TABLE 4. 10

DISTRIBUTION OF GRADE 3, 6 AND 9 IQ SCORES FOR GRADE 11 IDENTIFIED GIFTED (11IG)

IQ CATEGORY	GR3 V N=69	GR6 V N=107	GR9 V N=104	GR9 Q N=103	GR3 NV N=69	GR6 NV N=105	GR9 NV N=103
< 100	0	0	0	3 (2.9%)	0	0	0
100 - 109	0	6 (5.6%)	5 (4.8%)	1 (.9%)	0	3 (2.9%)	5 (4.9%)
110 - 119	4 (5.8%)	20 (18.7%)	22 (21.2%)	17 (16.5%)	5 (7.2%)	17 (16.2%)	20 (19.4%)
120 - 129	9 (13.0%)	38 (35.5%)	39 (37.5%)	32 (31.1%)	18 (26.1%)	26 (24.8%)	23 (22.3%)
130 - 139	39 (56.5%)	27 (25.2%)	30 (28.8%)	41 (39.8%)	25 (36.2%)	39 (37.1%)	26 (25.2%)
140 +	17 (24.6%)	16 (15.0%)	8 (7.7%)	9 (8.7%)	21 (30.4%)	20 (19.0%)	29 (28.2%)
MEAN	135	127.3	125.8	128.1	133.0	130.5	129.7
MEDIAN	134	127.0	126.0	129.0	133.0	130.0	130.0
S.D.	8.2	10.5	9.7	10.6	9.5	10.5	12.5

*11IG students wrote the LT in grades 3 and 6, the CCAT in grade 9.

TABLE 4.10.1

DISTRIBUTION OF GRADE 3, 6 AND 9 IQ SCORES FOR GRADE 11 IDENTIFIED GIFTED (IG) FEMALES

IQ CATEGORY	GR3 V n=30	GR6 V n=48	GR9 V N=46	GR9 Q N=45	GR3 NV N=30	GR6 NV N=46	GR9 NV N=45
< 100	0	0	0	3 (6.7%)	0	0	0
100 - 109	0	5 (10.4%)	2 (4.3%)	0	0	0	1 (2.2%)
110 - 119	3 (10.0%)	6 (12.5%)	10 (21.7%)	10 (22.2%)	1 (3.3%)	11 (23.9%)	8 (17.8%)
120 - 129	4 (13.3%)	19 (39.6%)	16 (34.8%)	12 (26.7%)	7 (23.3%)	9 (19.6%)	6 (13.3%)
130 - 139	14 (46.7%)	11 (22.9%)	12 (26.1%)	17 (37.8%)	12 (40.0%)	16 (34.8%)	14 (31.0%)
140 +	9 (30.0%)	7 (14.6%)	6 (13.0%)	3 (6.7%)	10 (33.3%)	10 (21.7%)	16 (35.6%)
MEAN	135.0	126.2	126.6	126.4	135.0	130.0	132.3
MEDIAN	134.0	126.3	124.5	128.0	134.0	130.0	132.0
S.D.	10.0	10.9	10.4	11.7	9.4	10.7	12.1

DISTRIBUTION OF GRADE 3, 6 AND 9 IQ SCORES FOR GRADE 11 IDENTIFIED GIFTED (11IG) MALES

IQ CATEGORY	GR3 V N=39	GR6 V N=59	GR9 V N=58	GR9 Q N=58	GR3 NV N=39	GR6 NV N=59	GR9 NV N=58
< 100	0	0	0	0	0	0	0
100 - 109	0	1 (1.7%)	3 (5.2%)	1 (1.7%)	0	3 (5.1%)	4 (6.9%)
110 - 119	1 (2.6%)	14 (23.7%)	12 (20.7%)	7 (12.1%)	4 (10.3%)	6 (10.2%)	12 (20.7%)
120 - 129	5 (12.8%)	19 (32.2%)	23 (39.7%)	20 (34.5%)	11 (28.2%)	17 (28.8%)	17 (29.3%)
130 - 139	25 (64.1%)	16 (27.1%)	18 (31.0%)	24 (41.4%)	13 (33.3%)	23 (39.0%)	12 (20.7%)
140 +	8 (20.5%)	9 (15.3%)	2 (3.4%)	6 (10.3%)	11 (28.2%)	10 (16.9%)	13 (22.4%)
MEAN	135	128.2	125.1	129.4	133.0	130.8	127.6
MEDIAN	135	127.0	126.0	130.0	133.0	131.0	128.0
S.D.	6.3	10.3	9.1	9.5	9.7	10.4	12.6

they were based on performance on the CCAT, it is unknown whether or not a change had occurred.

Like 10IG students, verbal scores for 11IG students were higher than non-verbal scores at the time of identification, i.e., in grade 3, albeit the difference was not large -- a 15% difference in proportions scoring >130 and a 1 point difference in medians. In general, performance appeared to be relatively similar across all ability areas although as expected, non-verbal scores were slightly higher than verbal scores in grades 6 and 9. None of the differentials were large and were well within the limits of sampling variability. Therefore, no within-group differences were found.

Further analysis of grade 3 scores showed that at the time of identification, 9.1% scored below 130 (5/69 identified on the basis of LT scores and 3/19 on the basis of individual IQ test scores). Grade 3 IQ scores were unavailable for another 19.3% (21/109), raising the possibility that the proportion scoring <130 was slightly larger than 9.1%. This finding partially accounts for the large number scoring <130 in grades 6 and 9 although regression effects also account for the difference.

The change in IQ scores between grades 3 and 6 clearly shows that IQ scores are not constant over time and that primary grade scores are subject to greater change than those in later grades, particularly verbal scores. This not only challenges the use of IQ cut-off scores for program identification but also questions the extent to which non-cognitive variables and teachers' definitions affect the selection process.

B. 2. COMPARATIVE LEVELS OF PERFORMANCE

Given the criterion by which 11UG comparison groups were chosen, it was expected that their IQ performance would be high in grades 6 and 9. It was also expected that their non-verbal scores would be higher than their verbal scores. This expectation was realized as shown in Tables 4.19 and 4.20. With the exception of 11UG9 students scoring lower than the 11IG students on the grade 9 verbal battery, 11UG comparison groups surpassed the level of IQ performance of 11IG students. Differences in medians between and within groups in grade 6 and/or 9 did not exceed the bounds of sampling variability except in one instance, i.e., between 11UG6 and 11UG9 students on the grade 6 verbal; therefore, no differences in either the level of IQ performance or in the pattern of mental abilities were found between 11IG and 11UG students (see Tables 4.21 and 4.22). The substantially higher proportion of 11UG9 students scoring >130 on the grade 9 non-verbal battery (85.3% vs 53.4%) suggests a non-verbal superiority relative to 11IG students but since the differential between medians did not exceed 8 IQ points, i.e., the SEmeas for the CCAT non-verbal battery, differences cannot be imputed.

TABLE 4.19

DISTRIBUTION OF GRADE 6 LT AND GRADE 9 CCAT SCORES FOR GRADE 11 UNIDENTIFIED GIFTED (11UG6)

IQ CATEGORY	GR6 V N=52	GR9 V N=45	GR9 Q N=44	GR6 NV N=52	GR9 NV N=44
< 100	0	0	0	0	0
100 - 109	0	0	1 (2.3%)	0	2 (4.5%)
110 - 119	0	3 (6.7%)	5 (11.4%)	0	3 (6.8%)
120 - 129	0	16 (35.6%)	15 (34.1%)	0	12 (27.3%)
130 - 139	42 (80.8%)	21 (46.7%)	18 (40.9%)	31 (59.6%)	13 (29.5%)
140 +	10 (19.2%)	5 (11.1%)	5 (11.4%)	21 (40.4%)	14 (31.8%)
MEAN	136.2	130.5	129.6	138.5	132.7
MEDIAN	135.0	131.0	130.0	138.5	134.0
S.D.	4.6	7.7	9.6	6.4	11.8

TABLE 4.19.1

DISTRIBUTION OF GRADE 6 LT AND GRADE 9 CCAT SCORES FOR GRADE 11 UNIDENTIFIED GIFTED (11UG6) FEMALES

IQ CATEGORY	GR6 V N=28	GR9 V N=25	GR9 Q N=24	GR6 NV N=28	GR9 NV N=24
< 100	0	0	0	0	0
100 - 109	0	0	1 (4.2%)	0	2 (8.3%)
110 - 119	0	2 (8.0%)	1 (4.2%)	0	2 (8.3%)
120 - 129	0	10 (40.0%)	10 (41.7%)	0	8 (33.3%)
130 - 139	23 (82.1%)	9 (36.0%)	11 (45.8%)	16 (57.1%)	7 (29.2%)
140 +	5 (17.9%)	4 (16.0%)	1 (4.2%)	12 (42.9%)	5 (20.8%)
MEAN	136.5	130.2	128.4	139.0	130.4
MEDIAN	135.0	130.0	129.5	139.0	129.5
S.D.	4.8	8.9	8.0	6.4	12.9

DISTRIBUTION OF GRADE 6 LT AND GRADE 9 CCAT SCORES FOR GRADE 11 UNIDENTIFIED GIFTED (11UG6) MALES

IQ CATEGORY	GR6 V N=24	GR9 V N=19	GR9 Q N=19	GR6 NV N=24	GR9 NV N=19
< 100	0	0	0	0	0
100 - 109	0	0	0	0	0
110 - 119	0	1 (5.3%)	4 (21.1%)	0	1 (5.3%)
120 - 129	0	6 (31.6%)	4 (21.1%)	0	4 (21.1%)
130 - 139	19 (79.2%)	11 (57.9%)	7 (36.8%)	15 (62.5%)	5 (26.3%)
140 +	5 (20.8%)	1 (5.3%)	4 (21.1%)	9 (37.5%)	9 (47.4%)
MEAN	135.8	130.9	131.1	137.9	135.4
MEDIAN	135.0	131.0	130.0	136.5	137.0
S.D.	4.5	5.9	11.3	6.5	10.0

TABLE 4.20

DISTRIBUTION OF GRADE 6 LT AND GRADE 9 CCAT SCORES
FOR GRADE 11 UNIDENTFIED GIFTED (11UG9)

IQ CATEGORY	GR6 V N=136	GR9 V N=175	GR9 Q N=177	GR6 NV N=136	GR9 NV N=177
< 100	3 (2.2%)	6 (3.4%)	0	0	0
100 - 109	16 (11.8%)	6 (3.4%)	1 (.6%)	2 (1.5%)	2 (1.1%)
110 - 119	34 (25.0%)	25 (14.3%)	12 (6.8%)	14 (10.3%)	7 (3.9%)
120 - 129	48 (35.3%)	50 (28.6%)	21 (11.9%)	32 (23.5%)	17 (9.6%)
130 - 139	27 (19.9%)	78 (44.6%)	123 (69.5%)	49 (36.0%)	86 (48.6%)
140 +	8 (5.9%)	10 (5.7%)	20 (11.3%)	39 (28.7%)	65 (36.7%)
MEAN	122.2	126.1	132.5	132.8	135.4
MEDIAN	122.0	130.0	133.0	132.5	135.0
S.D.	12.1	11.4	7.7	9.9	8.9

TABLE 4.20.1

DISTRIBUTION OF GRADE 6 LT AND GRADE 9 CCAT SCORES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG9) FEMALES

IQ CATEGORY	GR6 V N=66	GR9 V N=83	GR9 Q N=84	GR6 NV N=66	GR9 NV N=84
< 100	2 (3.0%)	5 (6.0%)	0	0	0
100 - 109	6 (9.1%)	3 (3.6%)	0	0	0
110 - 119	16 (24.2%)	9 (10.8%)	7 (8.3%)	7 (10.6%)	4 (4.8%)
120 - 129	26 (39.4%)	19 (22.9%)	12 (14.3%)	13 (19.7%)	10 (11.9%)
130 - 139	12 (18.2%)	41 (49.4%)	56 (66.7%)	25 (37.9%)	42 (50.0%)
140 +	4 (6.1%)	6 (7.2%)	9 (10.7%)	21 (31.8%)	28 (33.3%)
MEAN	122.3	126.3	132.0	133.4	134.9
MEDIAN	122.5	130.0	133.0	134.0	134.0
S.D.	12.7	12.8	7.5	9.7	8.3

DISTRIBUTION OF GRADE 6 LT AND GRADE 9 CCAT SCORES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG9) MALES

IQ CATEGORY	GR6 V N= 70	GR9 V N=92	GR9 Q N=93	GR6 NV N=70	GR9 NV N=93
< 100	1 (1.4%)	1 (1.1%)	0	0	0
100 - 109	10 (14.3%)	3 (3.3%)	1 (1.1%)	2 (2.9%)	2 (2.2%)
110 - 119	18 (25.7%)	16 (17.4%)	5 (5.4%)	7 (10.0%)	3 (3.2%)
120 - 129	22 (31.4%)	31 (33.7%)	9 (9.7%)	19 (27.1%)	7 (7.5%)
130 - 139	15 (21.4%)	37 (40.2%)	67 (72.0%)	24 (34.3%)	44 (47.3%)
140 +	4 (5.7%)	4 (4.3%)	11 (11.8%)	18 (25.7%)	37 (39.8%)
MEAN	121.7	125.9	132.9	132.3	135.9
MEDIAN	122.0	129.0	133.0	132.0	135.0
S.D.	11.7	10.0	7.8	10.1	9.5

TABLE 4.21

SUMMARY TABLE OF IQ MEDIANS FOR GRADE 11 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

	11IG	11UG6	11UG9
GRADE 6 VERBAL (LT)	127	135*	122
GRADE 6 NON-VERBAL (LT)	130	138.5	132.5
GRADE 9 VERBAL (CCAT)	126	131	130
GRADE 9 QUANTITATIVE (CCAT)	129	130	133
GRADE 9 NON-VERBAL (CCAT)	130	134	135

*Difference between groups > SEmeas for Lorge Thorndike Verbal Battery (±4) and Non-verbal Battery (±6)

TABLE 4.22

SUMMARY TABLE OF GRADE 11 PROPORTIONS SCORING >130 IN GRADES 6 AND 9

	11IG	11UG6	11UG9
GR6 LT VERBAL %SCORING >130	40.2%	100.0%	26.8%
GR6 LT NON-VERBAL %SCORING >130	56.1%	100.0%	64.7%
GR9 CCAT VERBAL %SCORING >130	36.5%	57.8%	50.3%
GR9 CCAT QUANTITATIVE %SCORING >130	48.5%	52.3%	80.8%
GR9 CCAT NON-VERBAL %SCORING >130	53.4%	61.3%	85.3%

Neither can generalizations be made with respect to the change between grades 6 and 9 since IQ scores were based on two different IQ tests. The one generalization that can be made is that IQ scores changed over time and that different students appeared to emerge as gifted at different times of the growth cycle. Whether this was due to instrument or developmental factors is unknown but what is certain is that large numbers of students did not maintain their IQ scores >130 but rather showed a tendency to regress towards the mean in successive test administrations. This means that according to the conventional definition of giftedness, they were no longer considered gifted although according to statistical expectation, this only means that regression effects were operational.

SECTION III

GRADE 12 SUB-SAMPLE

A. PRELIMINARY ANALYSIS

Unlike grade 10 and 11 cohorts, IQ data for this cohort were based on performance on the Lorge Thorndike IQ Test in both grades 6 and 9. As shown in Table 4.23, relatively few scored >130 on both batteries although proportionately more scored >130 on one battery than scored on two, particularly at the grade 9 level.

A breakdown by battery showed that in grade 6, approximately three times as many students scored >130 on the non-verbal as on the verbal battery while in grade 9, six times as many did (see Table 4.24). In part, this was expected because of the 13 point discrepancy between grade 9 verbal and non-verbal means for the grade 12 aggregate (refer back to Table 4.16). What was not expected was the extent of the increase between grades 6 and 9 although the large sampling error for the Lorge Thorndike non-verbal battery (± 6.2 - 7.1) and the large standard deviation (16.2) for the population in District Y indicated a general unreliability of the instrument. The change in proportion scoring >130, therefore, underlines the instability of IQ test scores over time and at the same time, questions the reliability and use of group ability tests to measure giftedness. From the findings then, it appears that the proportion of students scoring in the gifted range is a function of the test being used, the age of the students and the ability being measured. Neither the incidence of gifted students nor the population itself can be considered static.

TABLE 4.23

PROPORTION OF GRADE 12 STUDENTS SCORING 130+ ON THE GRADE 6 AND 9 LORGE THORNDIKE

	% Scoring 130+ on 1 Battery	% Scoring 130+ on 2 Battery
Grade 6 1976/77	(482/5025) 9.6%	(87/5025) 1.7%
Grade 9 1979/80	(709/4522) 15.7%	(86/4522) 1.9%

TABLE 4.24

DISTRIBUTION OF GRADE 12 STUDENTS SCORING > 130 ON THE GRADES 6 AND 9 LORGE THORNDIKE BATTERIES

	GRADE 6 1976/77	GRADE 9 1979/80
VERBAL	(180/5025) 3.6%	(136/4460) 3.0%
NON-VERBAL	(569/5022) 11.3%	(795/4395) 18.1%

B. COMPARISON GROUPS

Students scoring >130 on both Lorge Thorndike sub-tests in grades 6 and 9 were separated into "identified gifted" (12IG) and "unidentified gifted" (12UG) comparison groups (see Table 4.25). Those scoring >130 in grade 6 comprised the 12UG6 sub-group (N=60) whereas those scoring >130 in grade 9 comprised the 12UG9 group (n=58). 36.7% (or 22/60) of the 12UG6 sub-group was also part of the 12UG9 sub-group. Of the remaining 63.3% (or 38/60), only 8% (3/38) did not have any scores >130 in grade 6, the majority having had at least one score >130.

B. 1. GRADE 12 "IDENTIFIED GIFTED"

When the cohort now in grade 12 was in elementary school, 123 students (71 male and 52 female) had been identified for gifted programming. In grade 6, 120 were still in the system and by the end of grade 9, 99 remained. Eight more students left the system between grades 10 and 12, leaving a total of 91 students or 74% of the original group.

Of the 12IG students in the system in grade 6, 82.5% (99/120) were identified for gifted programming on the basis of grade 3 LT scores, 8.1% (or 8/99) of whom did not score >130 on either grade 3 battery. Of the remaining 17.5% (or 21/120), 2/3 (or 14/21) were identified on the basis of individual IQ test scores, all of whom scored >130, and seven did not have grade 3 scores available. Only

8.1%, therefore, scored <130 at the time of selection although another 5.8% (7/120) may not have done so.

A much larger proportion of the 12IG sub-group scored <130 in grade 6 and/or 9. As shown in Table 4.25, 71.7% (or 86/120) scored >130 on one or two batteries in grade 6 and 76.8% (or 76/99) in grade 9. This means that approximately 1/4 of the 12IG students scored <130 in grade 6 and/or 9, demonstrating the instability of IQ scores over time.

TABLE 4.25

DISTRIBUTION OF GRADE 12 STUDENTS SCORING 130+
IN GRADE 6 (1976/77) AND GRADE 9 (1979/80)

	GRADE 6 N WRITING TEST=5025			GRADE 9 N WRITING TEST=4460		
	%IG	%UG	TOTAL	%IG	%UG	TOTAL
NO SCORES >130	34 (28.3%)			23 (23.2%)		
%SCORING 130+ ON 1 BATTERY	59 (49.2%)	423 (87.6%)	482	48 (48.5%)	661 (91.9%)	709
%SCORING 130+ ON 2 BATTERIES	27 (22.5%)	60* (12.4%)	87	28 (28.3%)	58^ (9.1%)	86
TOTALS	120	483	569	99	719	795

*12UG6 comparison group; ^ 12UG9 comparison group.

Table 4.26 shows that between grades 3 and 9, their verbal scores steadily decreased while their non-verbal scores remained more or less the same. The differential between verbal medians was larger between grades 3 and 6 (i.e., 10 IQ points) than between grades 6 and 9 (i.e.,2 IQ points), demonstrating that primary verbal scores were more

TABLE 4.26

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12
IDENTIFIED GIFTED MALES AND FEMALES (1216)

IQ CATEGORY	GRADE 3 V N=99	GRADE 6 V N=120	GRADE 9 V N=108	GRADE 3 NV N=98	GRADE 6 NV N=118	GRADE 9 NV N=106
< 100	0	0	2 (1.9%)	0	0	0
100 - 109	1 (1.0%)	2 (1.7%)	6 (5.6%)	4 (4.1%)	3 (2.5%)	1 (.9%)
110 - 119	3 (3.0%)	23 (19.2%)	24 (22.2%)	16 (16.3%)	13 (11.0%)	11 (10.4%)
120 - 129	15 (15.2%)	46 (38.3%)	39 (36.1%)	20 (20.4%)	37 (31.4%)	26 (24.5%)
130 - 139	45 (45.5%)	32 (26.7%)	28 (25.9%)	36 (36.7%)	48 (40.7%)	32 (30.2%)
140 +	35 (35.4%)	17 (14.2%)	9 (8.3%)	22 (22.4%)	17 (14.4%)	36 (34.0%)
MEAN	136	128	125	131	130	134
MEDIAN	137	127	125	132	130	133
S.D.	8.7	10.1	10.4	11.8	9.7	10.4

TABLE 4.26.1

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12
IDENTIFIED GIFTED FEMALES (1216)

IQ CATEGORY	GRADE 3 V N=43	GRADE 6 V N=50	GRADE 9 V N=43	GRADE 3 NV N=43	GRADE 6 NV N=48	GRADE 9 NV N=41
< 100	0	0	1 (2.3%)	0	0	0
100 - 109	1 (2.3%)	0	3 (6.9%)	1 (2.3%)	1 (2.1%)	0
110 - 119	1 (2.3%)	12 (24.0%)	14 (32.6%)	7 (16.3%)	3 (6.3%)	4 (9.8%)
120 - 129	9 (20.9%)	19 (38.0%)	15 (34.9%)	10 (23.3%)	18 (37.5%)	10 (24.4%)
130 - 139	17 (39.5%)	13 (26.0%)	7 (16.3%)	15 (34.9%)	20 (41.7%)	14 (34.1%)
140 +	15 (34.9%)	6 (12.0%)	3 (7.0%)	10 (23.3%)	6 (12.5%)	13 (31.7%)
MEAN	135	127	123	131	130	134
MEDIAN	136	125	123	130	130	134
S.D.	9.7	10.4	10.6	11.3	7.9	9.9

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12
IDENTIFIED GIFTED MALES (1216)

IQ CATEGORY	GRADE 3 V N=56	GRADE 6 V N=70	GRADE 9 V N=65	GRADE 3 NV N=55	GRADE 6 NV N=70	GRADE 9 NV N=65
<100	0	0	1 (1.5%)	0	0	0
100 - 109	0	3 (2.9%)	3 (4.6%)	3 (5.5%)	2 (2.9%)	1 (1.5%)
110 - 119	2 (3.6%)	11 (15.7%)	10 (15.4%)	9 (16.4%)	10 (14.3%)	7 (10.8%)
120 - 129	6 (10.7%)	27 (38.6%)	24 (36.9%)	10 (18.2%)	19 (27.1%)	16 (24.6%)
130 - 139	28 (50.0%)	19 (27.1%)	21 (32.3%)	21 (38.2%)	28 (40.0%)	18 (27.7%)
140 +	20 (35.7%)	11 (15.7%)	6 (9.2%)	12 (21.8%)	11 (15.7%)	23 (35.4%)
MEAN	137	128	127	131	130	133
MEDIAN	137	128	127	134	131	132
S.D.	7.9	10.0	10.1	12.3	10.8	10.7

subject to change than later grade scores and certainly more subject to change than non-verbal scores. What is particularly significant is that this change in verbal IQ performance between grades 3 and 6 would have resulted in 40% of the 12IG students not qualifying for gifted programs if their grade 6 scores had been used. Between grades 3 and 9, there was a total drop of 46% scoring >130 on the verbal battery. In other words, slightly less than half of the students identified as gifted in grade 3 scored >130 on the verbal battery in grade 9.

Non-verbal scores, on the other hand, remained relatively stable over the grade 3 to 9 interval with medians ranging between 130 - 133, dropping by 2 IQ points between grades 3 and 6 and increasing by 3 IQ points between grades 6 and 9. Non-verbal scores were slightly higher than verbal scores in both grades 6 and 9, showing the same pattern of within-level performance as the system aggregate. This was a reversal of their grade 3 pattern of IQ performance in which they demonstrated a verbal superiority relative to non-verbal performance as indicated by the 5 point differential between medians and the 20% differential in proportions scoring >130, suggesting it was their verbal abilities that helped identify them as gifted in the primary grades.

Few notable differences emerged between males and females as shown in Table 4.26.1 although males appeared to maintain verbal scores better than females. Whereas 41.5% of the males scored >130 on the grade 9 verbal battery, only 23.3% of the females did so. This contrasted with 85.7% of the males and 74.4% of the females scoring >130 on the grade 3 verbal battery. Non-verbal performance at all grade levels was similar.

B. 2. GRADE 12 "UNIDENTIFIED GIFTED"

(i) SAMPLE CHARACTERISTICS

Comparison groups of grade 12 "unidentified gifted" students were formed on the basis of IQ scores on the grades 6 and 9 Lorge Thorndike. 12UG6 was comprised of 60 students scoring >130 on both LT batteries in grade 6 whereas 12UG9 was comprised of 58 students scoring >130 on both in grade 9. Of the 12UG6 students, only 55 were still in the system in grade 9 and 45 in grade 12, constituting a total loss of 25%. Of the 12UG9 students, the loss was slightly larger with 42 students (or 72%) remaining in the system to the end of grade 12.

B. 3. COMPARATIVE LEVELS OF IQ PERFORMANCE

Figure 4.2 shows the comparative levels of IQ performance in grades 6 and 9 for 12IG, 12UG6 and 12UG9 students (see also Tables 4.26, 4.27 and 4.28). As expected, 12IG students were outperformed by 12UG6 and 12UG9 students on both verbal and non-verbal batteries in grades 6 and 9. Only one substantial difference between "identified gifted" and "unidentified gifted" students was found -- on the grade 9 verbal between 12UG9 and 12IG

FIGURE 4.2

ABILITY PROFILES OF GRADE 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

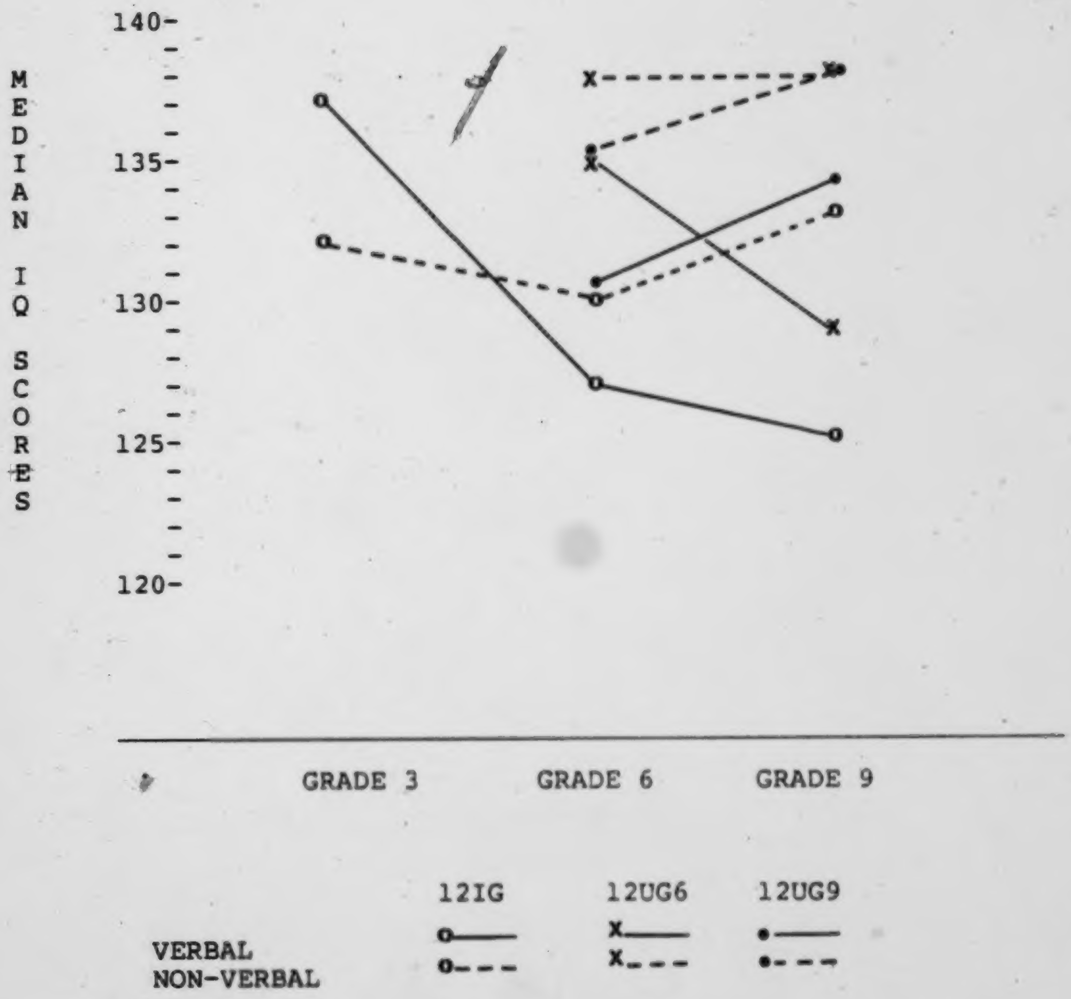


TABLE 4.27

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12 UNIDENTIFIED GIFTED MALES AND FEMALES (12UG6)

IQ CATEGORY	GRADE 6 V N=61	GRADE 9 V N=55	GRADE 6 NV N=61	GRADE 9 NV N=55
<100	0	0	0	0
100 - 109	0	0	0	0
110 - 119	0	6 (10.9%)	0	2 (3.6%)
120 - 129	0	24 (43.6%)	0	8 (14.5%)
130 - 139	50 (82.0%)	17 (30.9%)	38 (62.3%)	19 (34.5%)
140 +	11 (18.0%)	8 (14.5%)	23 (37.7%)	26 (47.3%)
MEAN	136	130	138	138
MEDIAN	135	129	138	138
S.D.	4.5	7.9	6.6	9.5%

TABLE 4.27.1

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12 UNIDENTIFIED GIFTED FEMALES (12UG6)

IQ CATEGORY	GRADE 6V N=21	GRADE 9 V N=18	GRADE 6 NV N=21	GRADE 9 NV N=18
<100	0	0	0	0
100 - 109	0	0	0	0
110 - 119	0	3 (16.7%)	0	0
120 - 129	0	8 (44.4%)	0	5 (27.8%)
130 - 130	16 (76.2%)	5 (27.8%)	11 (52.4%)	5 (27.8%)
140 +	5 (23.8%)	2 (11.1%)	10 (47.6%)	8 (44.4%)
MEAN	136	128	139	137
MEDIAN	135	128	139	135.5
S.D.	4.4	7.9	7.4	8.9

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12 UNIDENTIFIED GIFTED MALES (12UG6)

IQ CATEGORY	GRADE 6 V N=40	GRADE 9 V N=37	GRADE 6NV N=40	GRADE 9 NV N=37
<100	0	0	0	0
100 - 109	0	0	0	0
110 - 119	0	3 (8.1%)	0	2 (5.4%)
120 - 129	0	16 (43.2%)	0	3 (8.1%)
130 - 139	34 (85.0%)	12 (32.4%)	27 (67.5%)	14 (37.8%)
140 +	6 (15.0%)	6 (16.2%)	13 (32.5%)	18 (48.6%)
MEAN	136	130	138	139
MEDIAN	135	129	137.5	138
S.D.	4.6	8.1	6.1	9.9

TABLE 4.28

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12 UNIDENTIFIED GIFTED MALES AND FEMALES (12UG9)

IQ CATEGORY	GRADE 6 V N=52	GRADE 9 V N=58	GRADE 6 NV N=52	GRADE 9 NV N=58
<100	0	0	0	0
100 - 109	1 (1.9%)	0	0	0
110 - 119	1 (1.9%)	0	1 (1.9%)	0
120 - 129	21 (40.4%)	0	11 (21.2%)	0
130 - 139	22 (42.3%)	46 (79.3%)	25 (48.1%)	31 (53.4%)
140 +	7 (13.5%)	12 (20.7%)	15 (28.8%)	27 (46.6%)
MEAN	131	136	136	140
MEDIAN	131.5	134	135.5	138
S.D.	8.1	4.8	8.1	6.8

TABLE 4.28.1

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12 UNIDENTIFIED GIFTED FEMALES (12UG9)

IQ CATEGORY	GRADE 6 V N=19	GRADE 9 V N=23	GRADE 6 NV N=19	GRADE 9 NV N=23
<100	0	0	0	0
100 - 109	0	0	0	0
110 - 119	0	0	0	0
120 - 129	9 (47.4%)	0	5 (26.3%)	0
130 - 139	7 (36.8%)	19 (82.6%)	9 (47.4%)	12 (52.2%)
140 +	3 (15.8%)	4 (17.4%)	5 (26.3%)	11 (47.8%)
MEAN	132	135	135	139
MEDIAN	131	134	134	138
S.D.	6.5	4.6	8.2	7.0

DISTRIBUTION OF LORGE THORNDIKE IQ SCORES FOR GRADE 12 UNIDENTIFIED GIFTED MALES (12UG9)

IQ CATEGORY	GRADE 6 V N=33	GRADE 9 V N=35	GRADE 6 NV N=33	GRADE 9 NV N=35
<100	0	0	0	0
100 - 109	1 (3.0%)	0	0	0
110 - 119	1 (3.0%)	0	1 (3.0%)	0
120 - 129	12 (36.4%)	0	6 (18.2%)	0
130 - 139	15 (45.5%)	27 (77.1%)	16 (48.5%)	19 (54.3%)
140 +	4 (12.1%)	8 (22.9%)	10 (30.3%)	16 (45.7%)
MEAN	130	136	136	140
MEDIAN	132	134	137	138
S.D.	8.9	4.9	8.2	6.8

students (see Tables 4.29 and 4.30). Similar to grade 10 and 11 groups, IQ scores changed for all cohorts between grades 6 and 9, showing that students identified as gifted in the primary grades were not necessarily the ones who would have been identified in the junior or senior high school grades. Static identification procedures, therefore, were questionable and labelling on the basis of unreliable measuring instruments unwarranted.

TABLE 4.29

SUMMARY TABLE OF IQ MEDIANS FOR GRADE 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

	12IG	12UG6	12UG9
GRADE 6 VERBAL	127	~~135~~	131.5
GRADE 6 NON-VERBAL	130	138	135.5
GRADE 9 VERBAL	125	129	134*
GRADE 9 NON-VERBAL	133	138	138

* indicates a difference > 8 IQ points between groups on the verbal LT battery.

TABLE 4.30

PROPORTIONS OF GRADE 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" SCORING >130 IN GRADES 6 AND 9

	12IG	12UG6	12UG9
GRADE 6 VERBAL	40.9%	100%	55.8%
GRADE 9 VERBAL	34.2%	45.4%	100%
GRADE 6 NON-VERBAL	55.1%	100%	76.9%
GRADE 9 NON-VERBAL	64.2%	81.8%	100%

SUMMARY ANALYSIS OF IQ DATA

Though analysis of IQ data for grade 10, 11 and 12 "identified gifted" and "unidentified gifted" students was conducted separately because of the different IQ tests each group had written, there were a number of important findings common to all groups.

Perhaps the most important finding was that IQ scores were not constant over time. All "identified gifted" and "unidentified gifted" comparison groups showed substantial change between grades 6 and 9, some moving downwards, others moving upwards. These changes, particularly for the "identified gifted" students, were contrary to the "commonsense notion" that IQ scores, and hence giftedness, were fixed and unchanging. Of the 10IG group, a significant 42.9% did not obtain any scores >130 in grade 6 whereas a smaller but still significant 32% did not in grade 9. This compared to 29.4% and 25% of the 11IG students scoring <130 in grades 6 and 9 respectively. Proportions were similar for 12IG students with 28.3% scoring <130 in grade 6 and 23.2% in grade 9. This means that if gifted programs had been offered at the junior and senior high school level and if the IQ cut-off score of 130 had been rigidly enforced, between 25% - 40% of the original group of "identified gifted" students would not have qualified.

A related finding and one which partially explains the high percentage of "identified gifted" students scoring <130 in grades 6 and 9, was that some of the students scored below 130 in grade 3, i.e., 18.9% of the 10IG group and 8% - 9% of the 11IG and 12IG groups respectively. It is possible this proportion was larger than indicated since grade 3 IQ scores were unavailable for approximately 6% - 24%, the percentage varying with the different groups. On the one hand, this finding indicates that teachers and/or administrators may have questioned the arbitrariness of IQ cut-off scores and identified students on the basis of multidimensional criteria more in keeping with Renzulli's definition (1978). On the other hand, it raises questions as to which students were actually being identified and whether or not certain non-cognitive and/or ascriptive characteristics facilitated their identification.

These questions can partly be answered by the third major finding, i.e., that students identified for gifted programming demonstrated superior verbal abilities relative to non-verbal abilities at the time of selection. This was true for all three "identified gifted" groups even though they wrote different IQ tests in grade 3. The differential between grade 3 verbal and non-verbal medians, however, exceeded sampling variability only for the 10IG group. They maintained this superiority into grade 6 with an 11 point differential between medians, again exceeding sampling error. 11IG and 12IG groups, on the other hand, scored higher on the non-verbal battery than on the verbal battery in grade 6, a shift that was not unique to them but was instead reflective of system trends. This suggests that their pattern of IQ performance was an artifact of test construction since all three "identified gifted" groups showed the same pattern of IQ performance as the respective system aggregates had shown. In grade 9, all groups had higher non-verbal scores.

Another important finding was that different groups of students emerged as gifted at different stages of development, a finding which challenged the notion of a "reasonable and coherent category of individuals who should be labelled `gifted'" (Robinson 1977:4). Approximately 2/3 of the 10UG9 and 11UG9 comparison groups were comprised of students whose grade 6 IQ scores increased sufficiently enough to score >130 on 2 or 3 of the CCAT batteries in grade 9. There was more of an overlap between 12UG6 and 12UG9 comparison groups with the majority of students scoring >130 on at least one battery in grade 6 also scoring >130 in grade 9. All comparison groups showed considerable change in IQ performance between grades 6 and 9, demonstrating well that students who may have been considered non-gifted in the elementary grades were scoring >130 in the later grades. Conversely, students considered gifted in grade 3 were not necessarily the ones who were scoring >130 in grade 9. Whether the changes occured because of developmental, curricular and/or instrument factors is unknown. What is important, however, is that students' scores changed over time, a finding which challenges static identification procedures and the use of IQ cut-off scores for labelling purposes.

With respect to the pattern of change between grades 6 and 9, comparison groups essentially followed the same trends established by system aggregates although the magnitude of change varied slightly between groups. Generalizations beyond this were not possible for grade 11 and 12 comparison groups since system means for grade 6 IQ tests were not available to determine whether the differences between grades 6 and 9 were larger than statistical expectation. Grade 10 groups, on the other hand, showed that even though they followed the basic pattern of achievement established by the system aggregate, they more than doubled the increase on quantitative and non-verbal batteries that would have been expected. Probably the two general conclusions that can be made in terms of change between grades for all grade 10, 11 and 12 "identified gifted" and "unidentified gifted" students are that (1) non-verbal performance, regardless of the IQ test which was used, showed an increase between grades 6 and 9; and that (2) verbal scores peaked for different groups at different stages of development.

In summary, analysis of IQ data for "identified gifted" and "unidentified gifted" showed the instability of IQ scores with the level as well as the pattern of performance changing over time. Analysis also showed that at the time of identification, "identified gifted" students had higher scores on verbal batteries relative to non-verbal batteries although this pattern reversed itself in grade 9 for all groups. Between-group comparisons showed there was a tendency for "unidentified gifted" groups to be superior to "identified gifted" groups on non-verbal batteries although few of the differentials exceeded sampling error. Differentials were largest for grade 10 comparison groups with 10UG6 students scoring substantially higher than 10IG students on the grades 6 and 9 non-verbal batteries and 10UG9 students scoring higher on the grade 9 non-verbal battery. Though 11UG and 12UG students scored higher on non-verbal batteries than their "identified gifted" counterparts, none of the differentials exceeded sampling error. These findings suggest that students tend to be identified as gifted on the basis of verbal IQ scores and that students scoring >130 on non-verbal batteries are less likely to be identified. These findings also suggest that different groups of students might have been selected for gifted programming if selection had taken place in the later grades and if non-verbal abilities had been stressed. Thus, identification of giftedness appears dependent upon the ability being measured, the time of its measurement and the test used in its measurement.

CHAPTER V

SOCIOECONOMIC STATUS OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED"

One of the major reasons gifted programming has not been well received by the general public is because it has been seen as elitist and as serving children primarily of the highest SES classes. Proponents of gifted programming believe this to be untrue, arguing that gifted students come from all socioeconomic classes and that programs are equitable in their accommodation of talent.

In order to examine the validity of this belief, the SES profiles of "identified gifted" and "unidentified gifted" students were analyzed with specific reference to the following research question:

> Do gifted and talented students come primarily from upper middle class elites or do they come from all socioeconomic groups? Is there a difference between "identified gifted" and "unidentified gifted" students?

Two different types of SES data, i.e., residential and occupational data, were used in the analysis although each type was treated separately for comparative purposes. The use of residential data was necessary since occupational data were unavailable and/or missing for approximately 20% - 40% of the sample. As discussed in Chapter 3, the averaged annual income level of families living in different census tracts (Statistics Canada 1983) was used to classify students by SES origin. Students living in census tracts in which the average annual income was

$40,000 or more were classified as being of SES# 1 origin; those living in census tracts in which the annual income was between $35,000 and $39,999 were classified as being of SES# 2 origin; those living in tracts with average annual incomes between $30,000 and $34,999 were classified as SES# 3; those living in tracts with average annual incomes between $25,000 - $29,999 were classified as SES# 4; those with average annual incomes between $20,000 - $24,999 were classified as SES# 5 and those with average annual incomes below $20,000 were classified as SES# 6.

The findings obtained from analysis of residential data are discussed in the first section while those obtained from analysis of occupational data are discussed in the second section. The latter section also compares profiles obtained from the two different types of SES data.

SECTION I

ANALYSIS OF RESIDENTIAL DATA

A. GENERAL FINDINGS

Relative to the SES base of the urban community in which the given student population lives, there was a disproportionate representation of "identified gifted" and "unidentified gifted" students from the highest SES classes and an under-representation of students from the lowest SES classes. Reference to Table 5.1 and Figure 5.1 shows that the SES base of the city was primarily "lower middle class"

TABLE 5.1

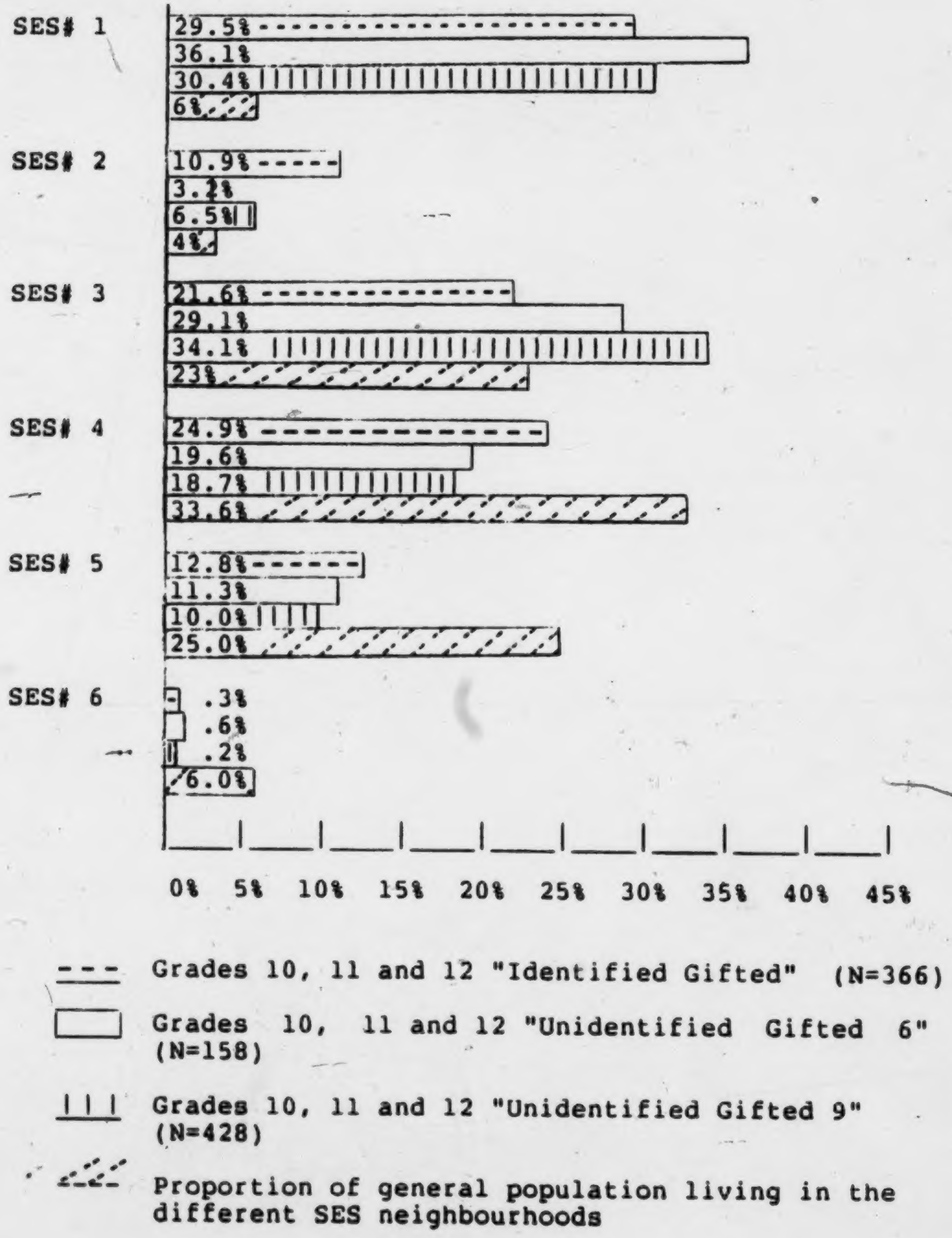
SES PROFILES OF IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED AGGREGATES

SES CATEGORY	IDENTIFIED GIFTED (IG)			UNIDENTIFIED GIFTED (UG6)			UNIDENTIFIED GIFTED (UG9)		
	MALE N=189	FEMALE N=177	TOTAL N=366	MALE N=85	FEMALE N=73	TOTAL N=158	MALE N=230	FEMALE N=198	TOTAL N=428
SES #1 $40,000+	59 (31.2%)	49 (27.7%)	108 (29.5%)	31 (36.5%)	26 (35.6%)	57 (36.1%)	61 (26.5%)	69 (34.8%)	130 (30.4%)
SES#2 $35,000 - 39,999	19 (10.1%)	21 (11.9%)	40 (10.9%)	5 (5.9%)	0	4 (2.5%)	17 (7.4%)	11 (5.6%)	28 (6.5%)
SES #3 $30,000 - 34,999	41 (21.7%)	38 (21.5%)	79 (21.6%)	20 (23.5%)	26 (35.6%)	46 (29.1%)	79 (34.3%)	67 (33.8%)	146 (34.1%)
SES #4 $25,000 - 29,999	49 (25.9%)	41 (23.2%)	90 (24.6%)	14 (16.5%)	17 (23.3%)	31 (19.6%)	47 (20.4%)	33 (16.7%)	80 (18.7%)
SES #5 $20,000 - 24,999	19 (10.1%)	28 (15.8%)	47 (12.8%)	14 (16.5%)	4 (5.5%)	18 (11.4%)	25 (10.7%)	18 (9.1%)	43 (10.0%)
SES #6 BELOW $20,000	2 (1.1%)		2 (.5%)	1 (1.2%)	0	1 (.6%)	1 (.4%)	0	1 (.2%)

FIGURE 5.1

SES DISTRIBUTION OF GRADES 10, 11 AND 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

N=952



in that 58.6% of the urban dwellers lived in SES #3 & SES #4 neighbourhoods, 25% living in SES #3 and 33.6% in SES #4 neighbourhoods. Their contribution to the gifted student population was nearly proportionate to their relative position in the community in that approximately half of the "identified gifted" and "unidentified gifted" students lived in these middle class neighbourhoods, i.e., 46.5% of the "identified gifted" students, 48.7% of the UG6 and 52.8% of the UG9 students. Proportionately more "unidentified gifted" students lived in SES #3 neighbourhoods than in SES#4 neighbourhoods whereas "identified gifted" students had a more equitable distribution between SES #3 and SES #4 although there were 3.3% more living in SES #4 than in SES #3 neighbourhoods.

Figure 5.1 also shows that 10% of the urban population lived in SES#1 and SES#2 neighbourhoods yet they contributed almost 40% of the "identified gifted" and "unidentified gifted" student population. This compared to 30% of the population living in SES#5 & SES#6 neighbourhoods but contributing only 11.1% of the gifted student population -- almost the reverse proportion. Thus, while the income distribution pattern of the community base leaned towards the lowest SES classes, the distribution pattern of the gifted student population leaned towards the highest SES classes.

As shown, no substantive differences emerged between "identified gifted" and "unidentified gifted" students although there was a slight differential between them with respect to the proportion in the three highest SES classes. "Identified gifted" students had a slightly lower SES profile than "unidentified gifted" students with a total of 38% in the three lowest SES classes compared to 31.5% and 28.9% for UG6 and UG9 students respectively. All three groups, however, had approximately 2/3 originating in the three highest SES classes with the remaining 1/3 in the three lowest SES classes. This means that approximately 1/3 of the urban population contributed 2/3 of the gifted student population, clearly indicating that giftedness, as currently defined, was largely concentrated in the upper middle classes. High IQ and/or gifted students, therefore, were predominantly of middle and upper class origin with the greatest proportion being of SES #1 origin. Thus, even though there was representation from all SES classes in the gifted student population, the proportion from the three lowest classes relative to the three highest classes was small, suggesting that the "myth" , i.e., "Gifted and talented come from or represent an upper middle class elite", was, in fact, reality.

With respect to male/female differences, aggregate statistics showed there was little or no difference between gender groups, both replicating the pattern of distribution found for the "identified gifted" and "unidentified gifted" aggregates (see Table 5.1). One interesting observation is that there were more "unidentified gifted" males than females in the three lowest SES classes although the differential was small (6%).

B. GRADE 10 SUB-SAMPLE

Separate analysis of grade 10 students showed similar findings to those of "identified gifted" and "unidentified gifted" aggregates. As shown in Table 5.2, grade 10 "identified gifted" and "unidentified gifted" groups were heavily concentrated in the upper middle classes with approximately 70% in the combined SES#1, SES#2 and SES#3 classes. Less than 12% of the remaining 30% were of SES#5 or SES#6 origin, the majority being concentrated in SES#4. Their disproportionate representation in the upper middle classes was underlined when their proportion vis à vis the total city population was considered. 65% of all city dwellers lived in the three lowest SES communities yet less than 30% of the "identified gifted" and "unidentified gifted" students lived in them. Conversely, approximately 70% lived in SES #1, SES #2 and SES #3 communities but only 35% of the city dwellers lived in these higher SES communities. In other words, one third of the city population contributed almost 3/4 of the grade 10 gifted student population while the remaining 2/3 contributed a little more than a 1/4.

The major difference between 10IG and 10UG students lay in their distribution pattern. Whereas the greatest within-group proportion for "identified gifted" students was found in SES#1, the greatest within-group proportion for

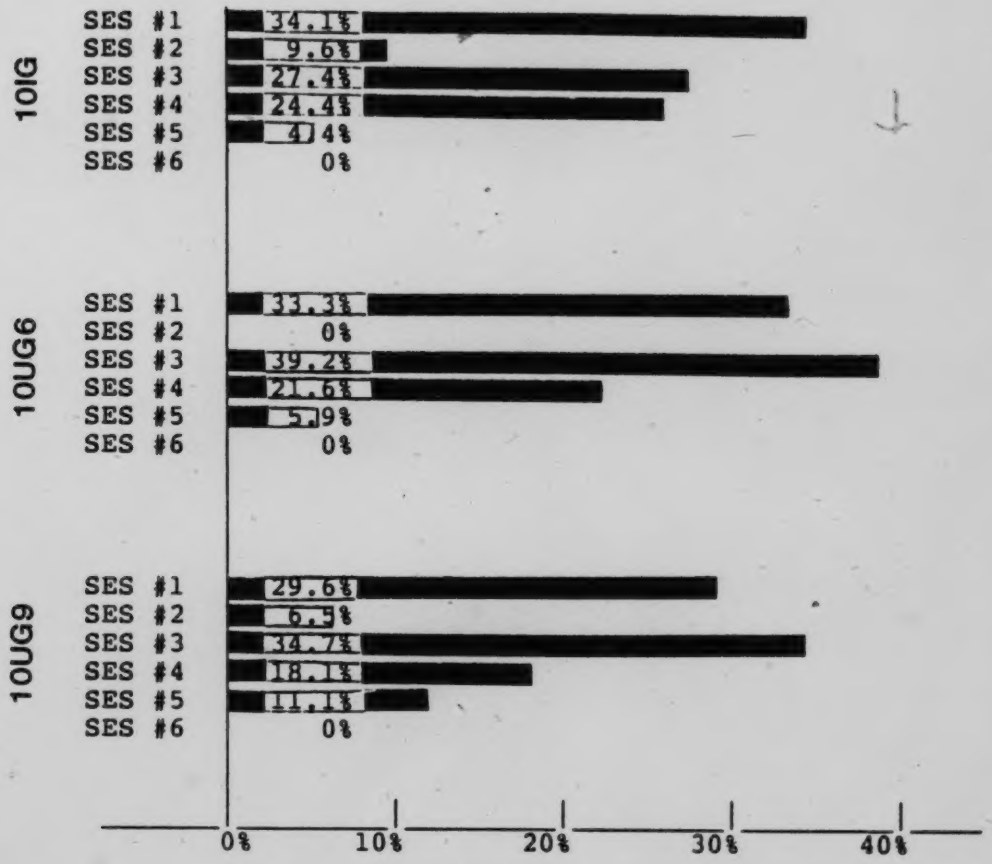
TABLE 5.2

SES PROFILES OF IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED GRADE 10 STUDENTS

SES CATEGORY	GRADE 10 IDENTIFIED GIFTED (10IG)			GRADE 10 UNIDENTIFIED GIFTED (10UG6)			GRADE 10 UNIDENTIFIED GIFTED (10UG9)		
	MALE N=58	FEMALE N=77	TOTAL N=135	MALE N=23	FEMALE N=28	TOTAL N=51	MALE N=105	FEMALE N=94	TOTAL N=199
SES #1	18	28	46	8	9	17	27	32	59
$40,000 +	(31.0%)	(36.4%)	(34.1%)	(34.8%)	(32.0%)	(33.3%)	(25.7%)	(34.0%)	((29.6%)
SES #2	6	7	13	0	0	0	8	5	13
$35,000 - 39,999	(10.3%)	(9.1%)	(9.6%)	(0%)	(0%)	(0%)	(8.0%)	(5.3%)	(6.5%)
SES #3	13	24	37	8	12	20	38	31	69
$30,000 - 34,999	(22.4%)	(31.2%)	(27.4%)	(34.8%)	(42.9%)	(39.2%)	(36.2%)	(33.0%)	(34.7%)
SES #4	20	13	33	5	6	11	20	16	36
$25,000 - 29,999	(34.5%)	(16.9%)	(24.4%)	(21.7%)	(21.4%)	(21.6%)	(19.0%)	(17.0%)	(18.1%)
SES #5	1	5	6	2	1	3	12	10	22
$20,000 - 24,999	(1.7%)	(6.5%)	(4.4%)	(8.7%)	(3.6%)	(5.9%)	(11.4%)	(10.6%)	(11.1%)
SES #6	0	0	0	0	0	0	0	0	0
BELOW $20,000									

FIGURE 5.2

SES PROFILES FOR GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED"



"unidentified gifted" students was found in SES#3 (see Figure 5.2). In terms of relative proportions between groups, 10UG6 students had a similar proportion (33.3%) in SES#1 to 10IG students (34.1%) while 10UG9 students had a slightly lower proportion (29.6%). The difference between groups, therefore, lay in the shape of the distribution. Whereas more 10IG students were found in SES#2, more 10UG6 and 10UG9 students were found in SES#3. Since overall proportions in the three highest classes were similar, the only real difference between "identified gifted" and "unidentified gifted" students lay in the shape of the distribution pattern and not in the proportion in the various SES classes.

With respect to male and female differentials, few differences emerged (see Table 5.2). Males and females tended to have similar distributions although 10IG males were of slightly lower SES origin than 10IG females. 10UG6 and 10UG9 cohorts similarly had slightly more males than females in the lowest SES classes although in general, they demonstrated the same basic profile as the combined aggregates.

C. GRADE 11 SUB-SAMPLE

Analysis of SES data for grade 11 "identified gifted" and "unidentified gifted" students similarly showed a concentration of students in the highest SES classes although proportions differed slightly from those of the grade 10 sub-groups (see Tables 5.3 and Figure 5.3). The 11IG sub-group was more evenly distributed than 11UG6 and 11UG9 sub-groups throughout the various SES categories although their greatest proportion, i.e., 25.7%, was in SES#1. Combining SES#1 & SES#2, a substantial 44% were of the highest SES -- exactly the same proportion as the 10IG sub-group. Thus, almost half of the grade 10 and 11 IG students were of SES#1 and SES#2 origin -- a substantial proportion considering the SES profile of the given urban community. The 11IG sub-group differed from the other groups in that it had the highest proportion (20%) of students living in SES#5 communities. No other group in grade 10 or 11 had as large a representation from the lower class.

Whereas 11UG9 students were concentrated in SES#3 just as 10UG6 and 10UG9 students were, 11UG6 students were concentrated in SES#1. In this, they resembled 10IG students in terms of the shape of the distribution as well as the respective proportions in the various SES classes.

With respect to male/female differences, one noteworthy difference emerged. There were more 11IG males than females in SES#1 and SES#2 and more 11IG females than males in SES#4 & SES#5, suggesting that perhaps lower class females and higher class males were more likely to be identified for gifted programs than lower class males and higher class females. This was further supported by the higher proportion of UG males in the lowest SES classes and the higher proportion of UG females in SES#1. Since this was

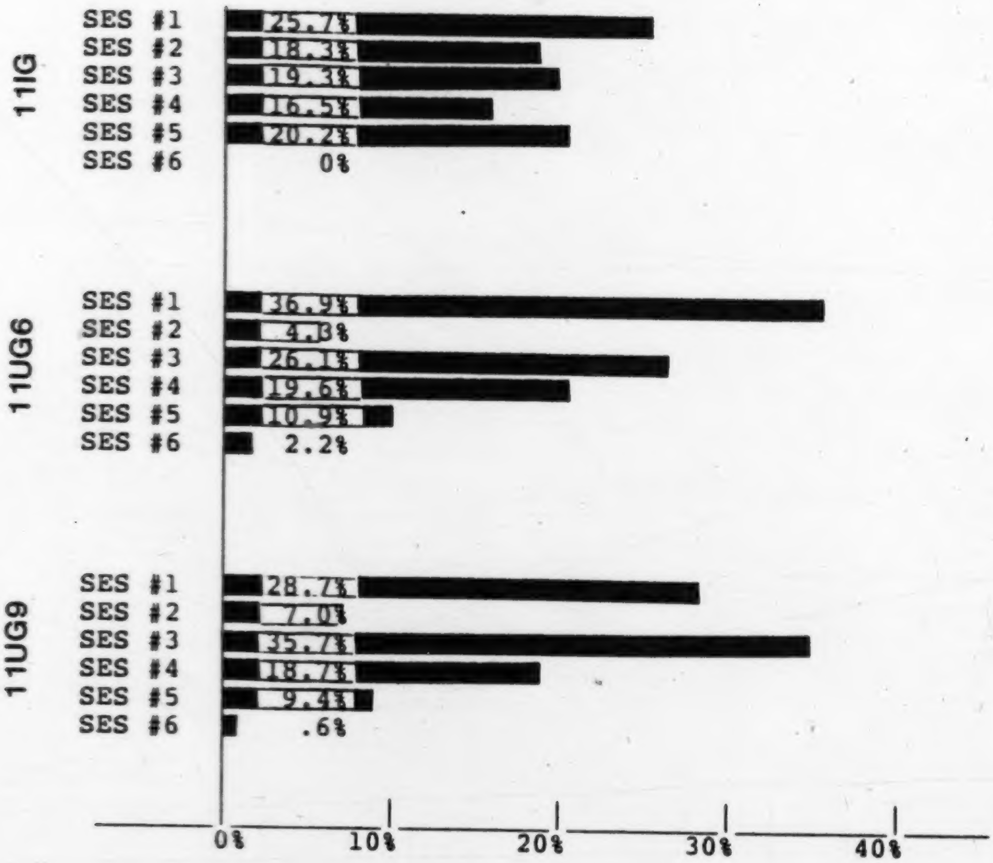
TABLE 5.3

SES PROFILES OF GRADE 11 IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED

SES CATEGORY	IDENTIFIED GIFTED (11IG)			UNIDENTIFIED GIFTED (11UG6)			UNIDENTIFIED GIFTED (11UG9)		
	MALE N=60	FEMALE N=49	TOTAL N=109	MALE N=22	FEMALE N=24	TOTAL N=46	MALE N=90	FEMALE N=81	TOTAL N=171
SES # 1 $40,000 +	19 (31.7%)	9 (18.4%)	28 (25.7%)	8 (36.4%)	9 (37.5%)	17 (36.9%)	22 (24.4%)	27 (33.3%)	49 (28.7%)
SES # 2 $35,000 - 39,999	9 (15.0%)	11 (22.4%)	20 (18.3%)	2 (9.1%)	0	2 (4.3%)	7 (7.8%)	5 (6.2%)	12 (7.0%)
SES # 3 $30,000 - 34,999	13 (21.7%)	8 (16.3%)	21 (19.3%)	4 (18.2%)	8 (33.3%)	12 (26.1%)	32 (35.6%)	29 (35.8%)	61 (35.7%)
SES # 4 $25,000 - 29,999	9 (15.0%)	9 (18.4%)	18 (16.5%)	4 (18.2%)	5 (20.8%)	9 (19.6%)	20 (22.2%)	12 (14.8%)	32 (18.7%)
SES # 5 $20,000 - 24,999	10 (16.7%)	12 (24.5%)	22 (20.2%)	3 (13.6%)	2 (8.3%)	5 (10.9%)	8 (8.9%)	8 (9.9%)	16 (9.4%)
SES # 6 BELOW $20,000	0	0	0	1 (4.5%)	0	1 (2.2%)	1 (1.1%)	0	1 (.6%)

FIGURE 5.3

SES PROFILES FOR GRADE 11 "IDENTIFIED GIFTED"
AND "UNIDENTIFIED GIFTED"



not true for grade 10 students, this may have been unique to the grade 11 population.

In general then, grade 11 "identified gifted" and "unidentified gifted" students showed a similar concentration in the three highest SES classes as the grade 10 students had shown although they tended to be of slightly lower SES origin, primarily due to the more equitable distribution of 11IG students. However, relative to the distribution of the city population, the upper middle classes were disproportionately represented in the grade 11 "identified gifted" and "unidentified gifted" student population.

D. GRADE 12 SUB-SAMPLE

Compared to grade 10 and 11 "identified gifted" students, 12IG students were more equitably distibuted throughout the various SES classes (see Table 5.4 and Figure 5.4). Whereas 10IG and 11IG students had their greatest proportion in SES#1 and a combined total of 64% - 71% in the three highest SES classes, 12IG students had 51.8% in the same three classes. Of the remaining 48.2%, 33% were in SES#4. Though approximately 1/3 of the 12IG students were in SES#1 and SES#2 (33.6%), compared to 10IG and 11IG students, they had the broadest SES base of any of the "identified gifted" groups. In fact, with the exception of their high proportion in SES#1, they resembled the SES base of the city more closely than any other group of

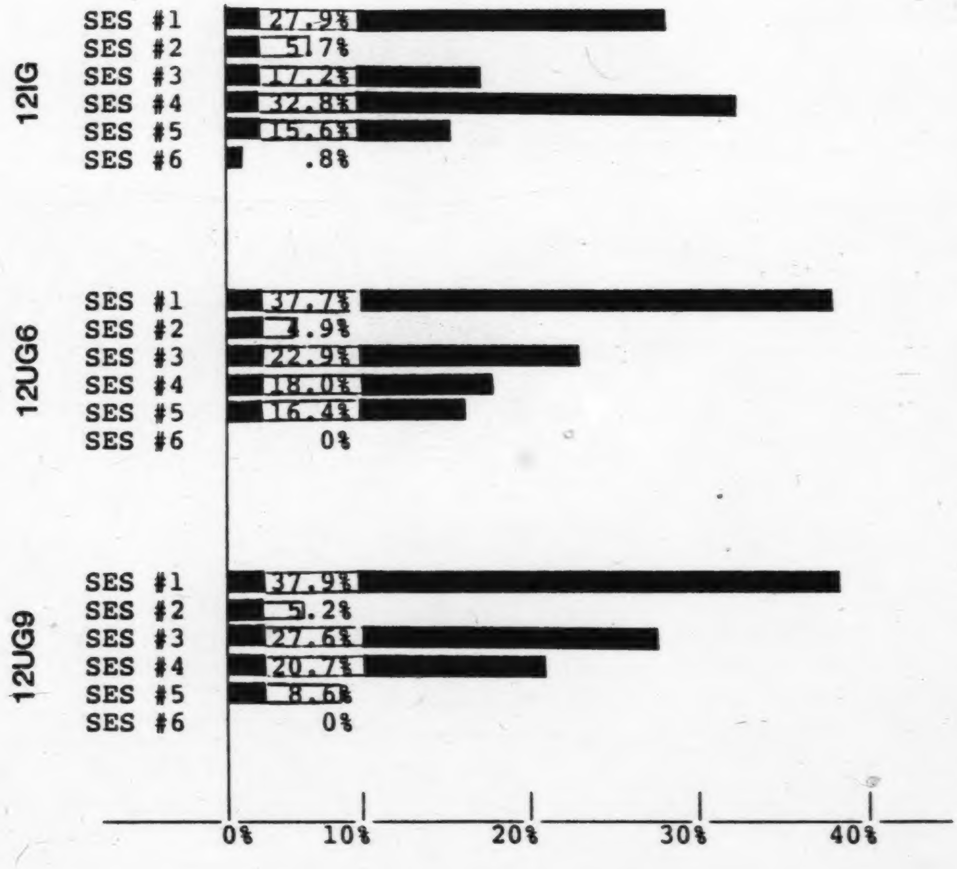
TABLE 5.4

SES PROFILES OF GRADE 12 IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED

SES CATEGORY	IDENTIFIED GIFTED (12IG)			UNIDENTIFIED GIFTED (12UG6)			UNIDENTIFIED GIFTED (12UG9)		
	MALE N=71	FEMALE N=51	TOTAL N=122	MALE N=40	FEMALE N=21	TOTAL N=61	MALE N=35	FEMALE N=23	TOTAL N=58
SES # 1 $40,000 +	22 (21.0%)	12 (23.5%)	34 (27.9%)	15 (37.5%)	8 (38.1%)	23 (37.7%)	12 (34.3%)	10 (43.5%)	22 (37.9%)
SES # 2 $35,000 - 39,999	4 (5.6%)	3 (5.9%)	7 (5.7%)	3 (7.5%)	0	3 (4.9%)	2 (5.7%)	1 (4.3%)	3 (5.2%)
SES # 3 $30,000 - 34,999	15 (21.1%)	6 (11.8%)	21 (17.2%)	8 (20.0%)	6 (28.6%)	14 (22.9%)	9 (25.7%)	7 (30.4%)	16 (27.6%)
SES # 4 $25,000 - 29,999	20 (29.6%)	19 (37.3%)	40 (32.8%)	5 (12.5%)	6 (28.6%)	11 (18.0%)	7 (20.0%)	5 (21.7%)	12 (20.7%)
SES # 5 $20,000 - 24,999	8 (11.3%)	11 (21.6%)	19 (15.6%)	9 (22.5%)	1 (4.8%)	10 (16.4%)	5 (14.3%)	0	5 (8.6%)
SES # 6 BELOW $20,000	1 (1.4%)	0	1 (.8%)	0	0	0	0	0	0

FIGURE 5.4

SES PROFILES FOR GRADE 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED"



students.

Grade 12 "unidentified gifted" students, on the other hand, were very similar to each other with approximately 66% - 70% in the three highest SES classes and with their greatest proportion, i.e., 38%, in SES# 1. In this, they differed from 12IG students as well as from grade 10 and 11 "unidentified gifted" students with one exception. Their pattern of distribution was almost identical to that of 11UG6 students. Thus, 12UG students had a higher SES profile than 12IG students, similar to the SES profile of the grade 11 students but contrary to that of the grade 10 students.

SUMMARY

Though there were small differentials within grade groups and between grade groups, the majority of "identified gifted" and "unidentified gifted" students were concentrated in the three highest SES classes. Grade 11 and 12 "identified gifted" students were the most equitably distributed throughout the various SES classes, having 36.7% and 48.2% respectively in the three lowest classes. All other groups resembled each other although they varied slightly with respect to the pattern of distribution. Aggregate proportions in the three highest SES classes were similar.

In general, approximately 2/3 of "identified gifted" and "unidentified gifted" students lived in upper middle class communities, the remaining 1/3 living in SES #4 and

SES #5 communities. Gifted and/or high IQ students, therefore, were primarily of upper middle class origin, a finding which showed that the "myth", i.e., "Gifted and talented come from or represent an upper middle class elite" was closer to reality than to "myth".

The implications of these findings are clear. If IQ tests continue to be the criterion for selection of students for gifted programs, then talent in lower class children will not be as readily identified since their proportion scoring >130 is considerably smaller than that in the higher SES classes. If lower class students are to be included in gifted programs, then IQ cut-off scores will have to be considerably lower than 130 since the higher the IQ cut-off score, the higher the SES profile (Vernon 1977:28).

SECTION II

SOCIOECONOMIC STATUS OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" BASED ON OCCUPATIONAL DATA

Occupational data were obtained from the Henderson Directory (1983;1984/85) for students in the sample although there was a large percentage for whom data were unavailable. Table 5.5 shows that between 20% to 40% of the sample had missing data, the proportions being larger for "unidentified gifted" than for "identified gifted" students.

TABLE 5.5

% "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" FOR WHOM FATHER'S OCCUPATIONAL STATUS WAS UNKNOWN

	"IDENTIFIED GIFTED"	"UNIDENTIFIED GIFTED"	
		UG6	UG9
GRADE 10	(28/133) 21.1%	(16/54) 29.6%	(80/195) 41.0%
GRADE 11	(22/110) 20.0%	(13/45) 28.9%	(55/167) 32.9%
GRADE 12	(25/122) 20.5%	(14/52) 26.9%	(12/53) 22.6%

Analysis of occupational data for the respective grade 10, 11 and 12 "identified gifted" and "unidentified gifted" sub-groups showed essentially the same SES profiles as those obtained using residential data with one major difference. The proportion of students of SES#1 and SES#2 origin was substantially larger than it was when residential data were used. In other words, the concentration of students in the highest SES classes, whether "identified gifted" or "unidentified gifted", was even more pronounced once parental occupational levels were known (see Table 5.6, Figures 5.5, 5.6 and 5.7). The occupational data showed substantially fewer in the lowest four SES classes than residential data had shown, suggesting residential data were less exact but nonetheless useful in describing the overall pattern of SES distribution of "identified gifted" and "unidentified gifted" students.

Since residential data were based on average annual incomes, these findings suggest that those holding high

TABLE 5.6

SES DISTRIBUTION OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" HIGH SCHOOL STUDENTS USING OCCUPATIONAL DATA

GRADE 10 STUDENTS

SES CATEGORY	10IG (N=105)	10UG6 (N=38)	10UG9 (N=115)
SES# 1	32.4%	26.3%	20.9%
SES# 2	40.0%	28.9%	46.9%
SES# 3	9.5%	18.4%	12.2%
SUB-TOTALS	81.9%	73.6%	80.0%
SES# 4	7.6%	7.9%	7.8%
SES# 5	1.9%	5.3%	1.7%
SES# 6	6.7%	7.9%	7.0%
OTHER**	1.9%	5.3%	3.5%
SUB-TOTALS	18.1%	26.4%	20.0%

GRADE 11 STUDENTS

SES CATEGORY	11IG (N=88)	11UG6 (N=32)	11UG9 (N=112)
SES# 1	13.6%	25.0%	20.5%
SES# 2	56.8%	40.6%	49.1%
SES# 3	5.8%	15.6%	8.0%
SUB-TOTALS	76.2%	81.2%	77.6%
SES# 4	12.5%	12.5%	8.0%
SES# 5	4.5%	--	7.1%
SES# 6	4.5%	--	4.5%
OTHER**	2.3%	6.3%	2.7%
SUB-TOTALS	23.8%	18.8%	22.3%

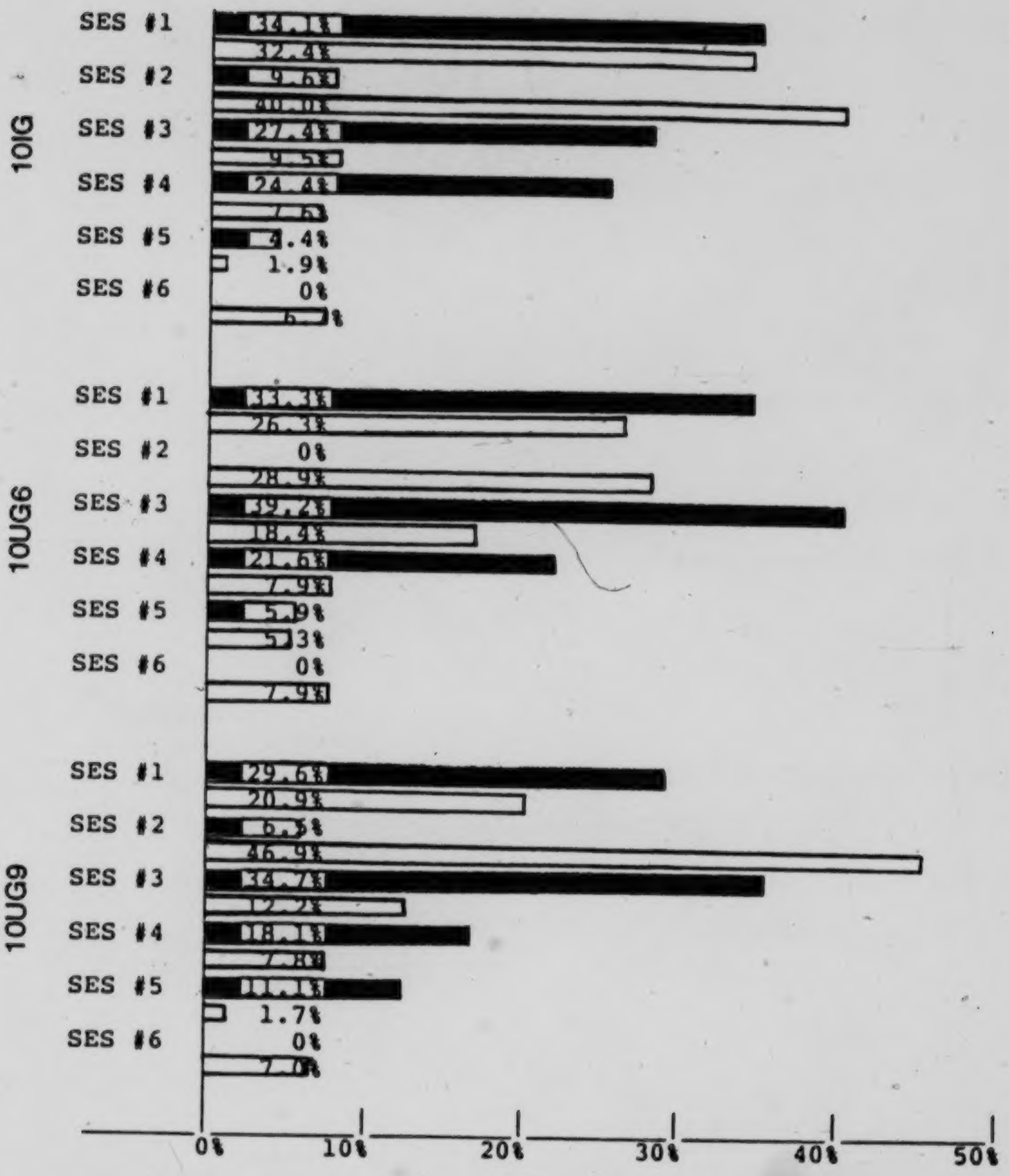
GRADE 12 STUDENTS

SES CATEGORY	12IG (N=96)	12UG6 (N=38)	12UG9 (N=41)
SES# 1	29.2%	15.8%	12.2%
SES# 2	35.4%	44.7%	46.3%
SES# 3	11.5%	2.6%	7.3%
SUB-TOTALS	76.1%	63.1%	65.8%
SES# 4	12.5%	13.2%	14.6%
SES# 5	3.1%	10.5%	4.9%
SES# 6	5.2%	10.5%	7.3%
OTHER**	3.1%	2.6%	7.3%
SUB-TOTALS	23.9%	36.8%	34.1%

* Percentages do not include students with missing data.
**Deceased, retired or student

FIGURE 5.5

SES PROFILES FOR GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED"



■ - Percentages derived from Residential Data
□ - Percentages derived from Occupational Data

FIGURE 5.6

SES PROFILES FOR GRADE 11 "IDENTIFIED GIFTED"
AND "UNIDENTIFIED GIFTED"

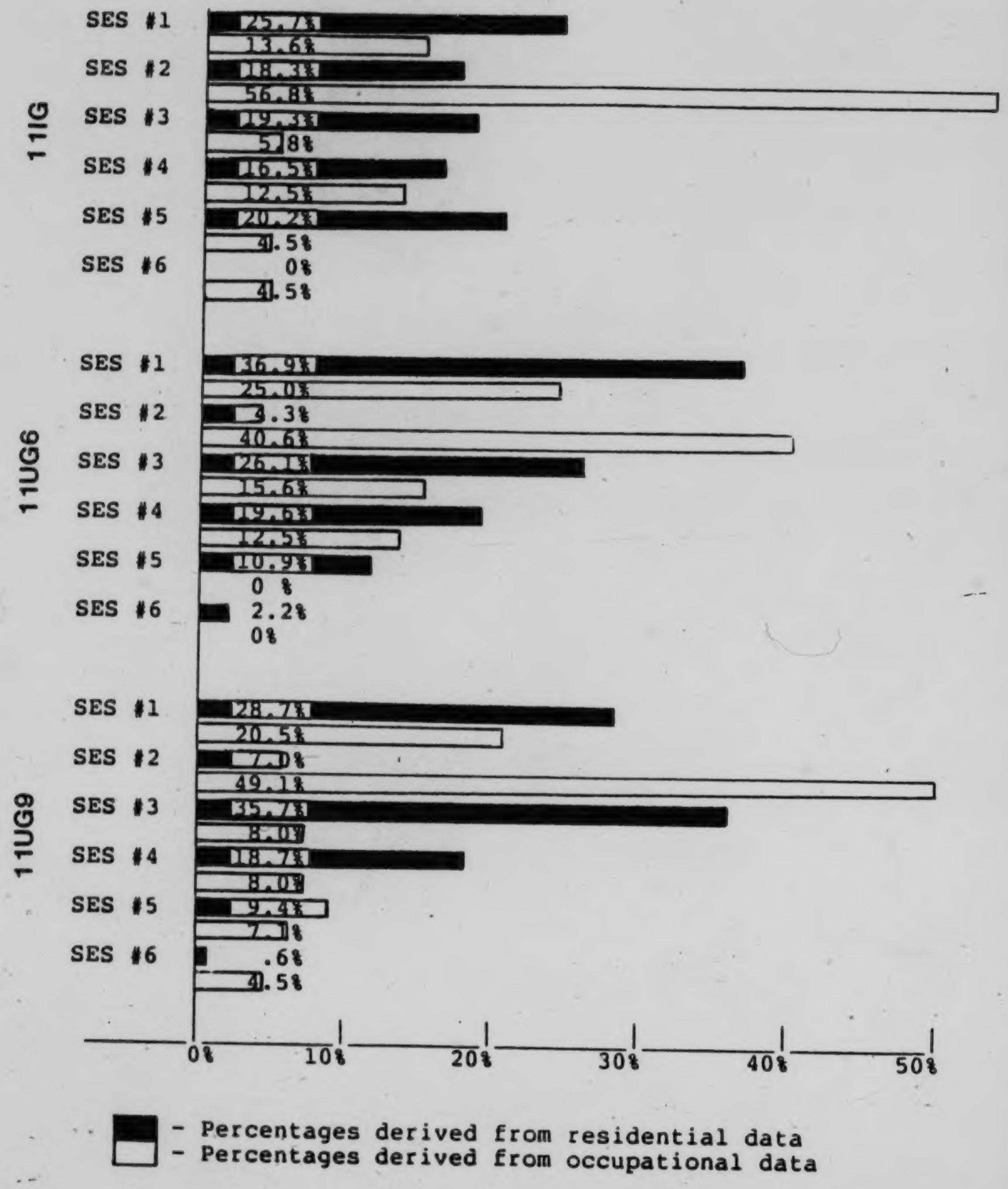
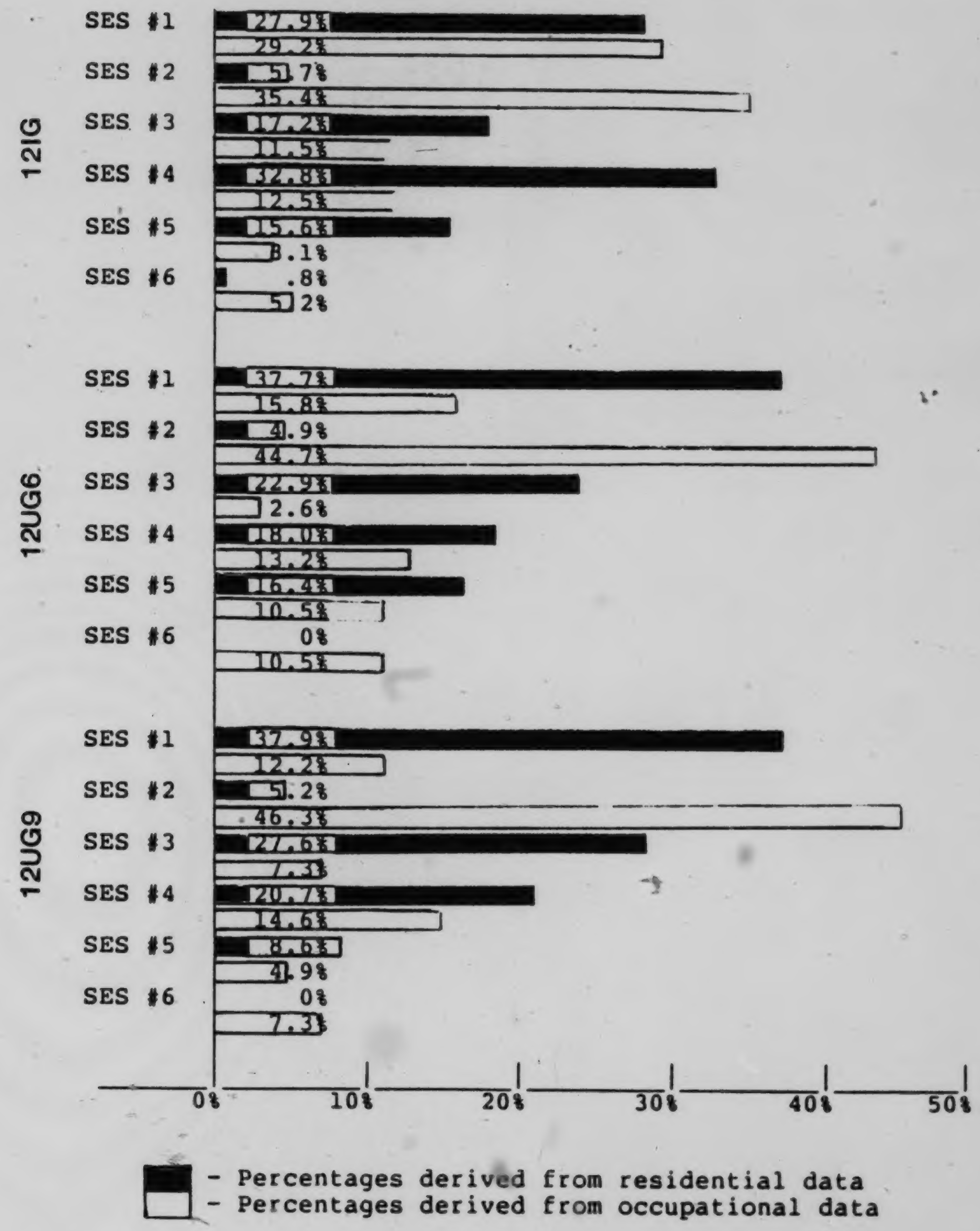


FIGURE 5.7

SES PROFILES FOR GRADE 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED"



status occupations were not necessarily those with the highest incomes nor those living in the highest SES areas. It is possible they lived in high SES "pocket developments" in lower SES communities but because census data aggregates annual average income levels for the entire census tract, residential differences may have been obscured. Regardless of the type of SES data used, the findings were the same -- there was a disproportionate representation of students of SES#1, SES#2 and SES#3 origin with less than 30% being of SES#4, SES#5 and SES#6 origin.

One noteworthy observation is that there was a substantial discrepancy between proportions in SES#2 when the two types of SES data were used, proportions being consistently larger with occupational data. This suggests that occupational data give a more accurate reflection of SES origins and that the $35,000 - 39,999 income range does not discriminate well between classes. This further suggests that occupational data are the preferred type of data for future research but that residential data are a reliable alternative in determining SES profiles.

Though total proportions in the three highest SES classes were similar between "identified gifted" and "unidentified gifted" groups, an important finding emerged when analysis of fathers' occupations was conducted (see Tables 5.7 and 5.8). Of the wide variety of occupational groups found in the economic sector, only three groups contributed substantial numbers of children to the gifted

TABLE 5.7

RANKED ORDER OF OCCUPATIONAL GROUPS CONTRIBUTING TO "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENT POPULATIONS

THE "TOP TWELVE" OCCUPATIONS

IG COHORT (N=289)	UG6 COHORT (N=108)	UG9 COHORT (N=268)
Managers (15.2%)	Managers (10.2%)	Managers (16.0%)
Professors (13.8%)	Professors (10.2%)	Professors (9.3%)
Teachers (8.0%)	Teachers (9.3%)	Teachers (7.8%)
Engineers (6.9%)	Doctors (5.6%)	Pres/Owners (7.5%)
Accountants (5.2%)	Accountants (4.6%)	Doctors (6.7%)
Doctors (5.2%)	Electricians (4.6%)	Accountants (4.9%)
Pres/Owners (3.1%)	Dir/Adms* (3.7%)	Dir/Adms.* (3.4%)
Lawyers (3.5%)	Engineers (3.7%)	Engineers (3.7%)
Supervisors**(2.8%)	Lawyers (2.8%)	Lawyers (2.6%)
Dir/Adm* (2.4%)	Salesmen (2.8%)	Salesmen (2.6%)
Clergy (1.7%)	Technicians(2.8%)	Supervisors (2.3%)
Truckers (1.4%)	Dentists (2.8%)	Mechanics (2.3%)

* includes auditors, bankers, financial officers as well as chartered accountants

**Supervisors related to construction, railroads, pipelines, public works, etc.

TABLE 5.8

% OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" FATHERS IN BUSINESS AND INDUSTRY

	IG COHORT	UG6 COHORT	UG9 COHORT
MANAGERS	15.2%	10.2%	16.0%
ACCOUNTANTS	5.2%	4.6%	4.9%
PRES/OWNERS	3.1%	1.9%	7.5%
DIR/ADMS	2.4%	3.7%	3.4%
TOTALS	25.9%	20.4%	31.8%

student population -- managers, university professors and teachers. There was no difference between "identified gifted" or "unidentifed gifted" cohorts in that the same three occupational groups, and in the same rank order, were found to contribute the largest number of gifted students. There was a slight tendency for the "identified gifted" cohort to be more "professional" in origin and the "unidentified gifted" to be more "business/ managerial", demonstrated not only by the respective proportions in the different occupational groups but also by the rankings of the other occupational groups. As noted, the UG9 cohort had approximately 1/3 of the fathers engaged in business compared to 1/4 of the fathers of "identified gifted" students and had "presidents/owners" ranked fourth whereas IG and UG6 cohorts had them ranked 8th or lower (see Tables 5.7, 5.8 and Appendix 5). The differentials, however, were small and were not seen as constituting a major difference between groups.

In general then, "identified gifted" and "unidentified gifted" cohorts were relatively similar in that both had over 75% of the fathers engaged in professional and/or managerial occupations. Few were engaged in blue collar/working class jobs (see Appendix 5 for a complete breakdown of occupations). Since the majority of fathers were highly educated professionals, or to use Bernstein's (1975) terms, "repairers, regulators, disseminators and shapers" of the "new middle class", the findings appear to support Bourdieu's hypothesis that it is the children of the "cultural capitalists" who, by virtue of their "cultural capital", are the ones most likely to be "scholastically excellent" and/or gifted.

CHAPTER VI

ACHIEVEMENT PROFILES OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED"

One of the major purposes of this follow-up study is to examine differences in achievement between "identified gifted" and "unidentified gifted" students. A central argument underlying advocacy of gifted programming rests on the assumption that gifted students need special programming if they are to maximize their potential and succeed academically. This argument is furthered by the claim that if gifted students do not receive such programming, they are likely to drop out of school, underachieve and/or engage in delinquent activity. This chapter focuses upon the analysis of achievement data for "identified gifted" and "unidentified gifted" students over the junior and senior high school years in order to see whether or not their achievement has been affected by the lack of gifted programming. If the advocates' arguments have any validity, then it is expected that neither group will be achieving well since gifted programming was curtailed at the end of elementary school and "identified gifted" students no longer had access to special programming. "Unidentified gifted" students, on the other hand, never had access to gifted programming during their schooling; consequently, they too would be expected to underachieve.

The chapter is organized to examine the achievement data for the respective grade 10, 11 and 12 "identified gifted" and "unidentified gifted" students in the sample. Specifically, it addresses the following questions:

(1) Do students who participate in gifted programs succeed academically?

(2) Do gifted students who have not participated in interventionist programming "make it on their own? In other words, do they achieve well in school despite the fact that they have not participated in gifted programming?

(3) Do those who have participated in gifted programs achieve better academically than those who have not participated? In other words, does gifted programming appear to have a positive effect on later academic achievement of participants? Does special educational intervention appear to counter the gender and SES effects effects known to affect student achievement?

(4) Do large numbers of gifted students, "identified or unidentified", achieve below the level at which they are capable? Is the percentage as large as the 55% suggested by Millar (1981:12)?

(5) Is there a difference between low achievers and high achievers in "identified gifted" and "unidentified gifted" groups in terms of SES and gender?

The chapter is organized into two major sections with the first section devoted primarily to addressing the issues raised by the first three research questions and the second section devoted to those raised by the last two questions.

SECTION I

A. GENERAL FINDINGS: ACADEMIC ACHIEVEMENT

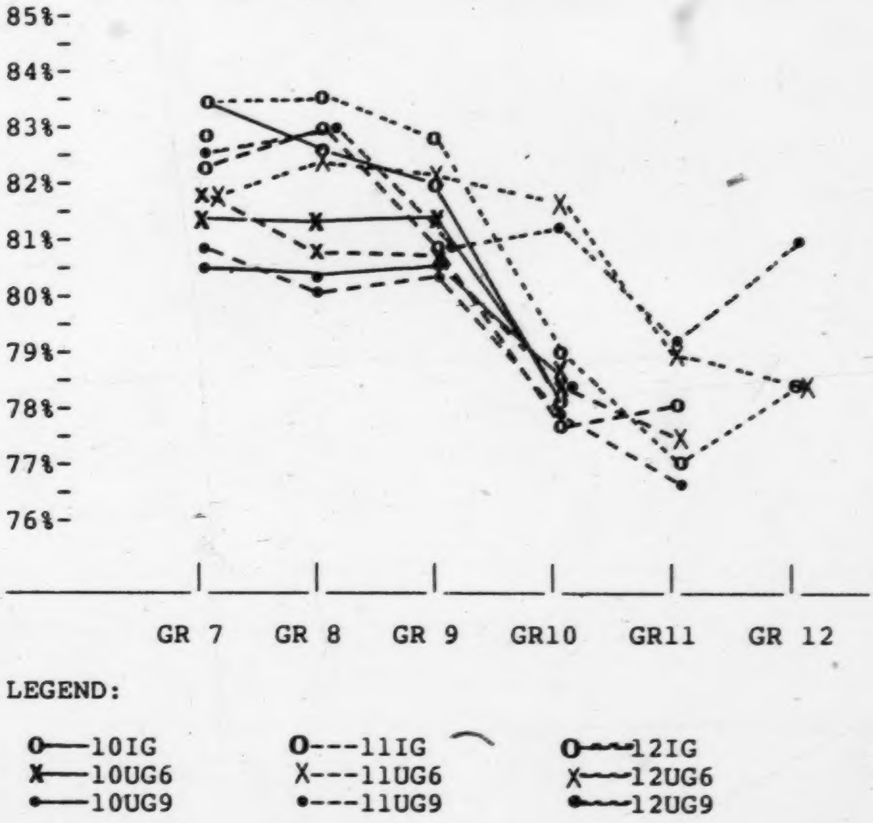
No major differences in the level of achievement between "identified gifted" and "unidentified gifted" sub-groups were found. With few exceptions, differentials between GPA medians were smaller than 4% at any one grade level and therefore, did not constitute a substantive difference in achievement between groups. The similarity between and within groups was remarkable and as shown in Figure 6.1 (see also Appendix 6 for comprehensive tables of GPA's), all medians in junior and senior high school were clustered within a 3% spread at any one grade level and an overall spread of 8% between grades 7 and 12.

At the junior high level, medians for all IG and UG groups were in the honors range and within the same 4% point interval, i.e., between 80% - 84%, although "identified gifted" students tended to have marginally better GPA's than UG6 and UG9 students. At the senior high school level, medians again were within a 4% point interval but were lower than at the junior high school level, having dropped to 76% - 79% . "Identified gifted" and "unidentified gifted" students had almost identical GPA's although 12UG students were marginally higher achievers. However as Figure 6.1 shows, differences between and within groups were so small that it can be concluded that there were no differences in the level of achievement between "identified gifted" and "unidentified gifted" students.

Another major finding is that all but the 12UG9 group showed a drop in GPA's between grades 9 and 10 with "identified gifted" groups showing a larger drop than their "unidentified gifted" counterparts (see Figure 6.1). None of the declines were >4%. Part of this drop may have been a function of the differing standards and expectations at the high school level although part may also have been due to personal adjustment factors.

FIGURE 6.1

SUMMARY TABLE OF GPA MEDIANS FOR GRADE 10, 11 AND 12
"IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS



B. GRADE 10 SUB-SAMPLE

1. BETWEEN - GROUP ANALYSIS

Analysis of achievement data for the grade 10 "identified gifted" and "unidentified gifted" cohorts showed little or no difference in the level of achievement between groups. The majority of students were high achievers with over 80% consistently obtaining GPA's 70% or higher in junior and senior high school although performance was generally lower in senior high school than in junior high. As shown in Table 6.1 (see also Appendix 6), median GPA's were remarkably similar for all groups, ranging from 80% to 83% in junior high school but being almost identical (78.1%, 78.5%, 78.5%) in grade 10. Since none of the differentials between groups exceeded 4.0%, it can be concluded that there were no differences in the overall level of achievement between grade 10 "identified gifted" and "unidentified gifted" students.

TABLE 6.1

SUMMARY TABLE OF GPA MEDIANS FOR JUNIOR AND SENIOR HIGH SCHOOL FOR GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

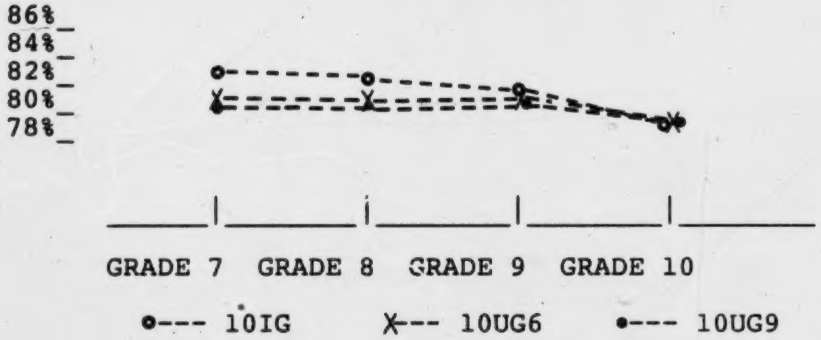
MEDIAN GPA	10IG	10UG6	10UG9
GR7 GPA	83.4%	81.3%	80.5%
GR8 GPA	82.5%	81.2%	80.2%
GR9 GPA	81.8%	81.3%	80.5%
GR10 GPA	78.1%	78.5%	78.5%
CHANGE BETWEEN GRADES 9 AND 10	-3.7%	-2.8%	-1.5%

Despite the similar levels of achievement by "identified gifted" and "unidentified gifted" students in junior and senior high school, there was an important difference with respect to the pattern of change over the grades. Whereas the achievement of "identified gifted" students tended to show a definite downward trend with

GPA's steadily declining on a yearly basis, the achievement of "unidentified gifted" students tended to be stable (see Figure 6.2).

FIGURE 6.2

PATTERNS OF ACHIEVEMENT FOR "IDENTIFIED GIFTED"
AND "UNIDENTIFIED GIFTED" GRADE 10 STUDENTS
AS INDICATED BY GPA MEDIANS



Reference to Tables 6.1 and 6.2 shows that in grade 7, "identified gifted" students had the highest median and proportion scoring >80% but in grade 10, they reversed their position vis à vis "unidentified gifted" students. They experienced a change of 5.3% points in median GPA's over the four year period (i.e., 83.4% to 78.1%) and a substantial change of 30% in the proportion scoring >80% (i.e., 70% to 40.8%). This contrasted with a considerably smaller change for "unidentified gifted" students, 10UG9 students showing a change of 2.8% points in median GPA's and 17.3% in proportion scoring >80% and 10UG9 students a change of only 2% points in median GPA's and 5.9% in proportion scoring >80%. Thus, even though there was 20% fewer scoring >80% in grade 7 than 10IG students, they maintained their achievement over the years. This, combined with the yearly decline of 10IG students, resulted in their slightly higher achievement in grade 10 (.4% in GPA medians and 3% - 5% in proportion >80%).

TABLE 6.2

PROPORTION OF GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" OBTAINING HONORS STANDING

	10IG	10UG6	10UG9
GR7 GPA	70.0%	60.8%	51.7%
GR8 GPA	61.9%	60.9%	51.9%
GR9 GPA	60.1%	65.1%	52.5%
GR10 GPA	40.8%	43.5%	45.8%
CHANGE BETWEEN GRADE 7 AND 10	-29.2%	-17.3%	-5.9%

All groups declined between grades 9 and 10 but the 10IG group showed the largest decline -- 3.7% GPA points compared to 2.8% and 1.5% GPA points for the 10UG6 and 10UG9 groups respectively. This, combined with their respective patterns of achievement, suggests that "identified gifted" students show the greatest tendency to change over time.

B. 2. MALE/FEMALE DIFFERENCES

These same basic trends held for males and females alike with one small difference (see Table 6.3 and Appendix 6). Females had slightly higher medians than males in junior high while the reverse was true in high school. Like the aggregates, however, differentials were small and never exceeded 4% points. Thus, no differences between male and female achievement were found.

TABLE 6.3

SUMMARY TABLE OF GRADE 10 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" MALE AND FEMALE GPA ACHIEVMENT

MEDIANS		10IG	10UG6	10UG9
GR7 GPA -	F	84.3%	81.7%	81.8%
	M	81.7%	79.1%	79.2%
GR8 GPA -	F	82.8%	81.7%	81.3%
	M	81.3%	78.1%	79.0%
GR9 GPA -	F	82.5%	81.8%	78.1% *
	M	80.5%	78.2%	78.9%
GR10 GPA -	F	77.3%	78.1%	78.5%
	M	79.0%	79.0%	78.5%

* - Differential >4% between groups

There was only one instance in which differentials between GPA medians exceeded 4% and this was within-gender groups. In grade 9, 10IG females had a 4.4% advantage over 10UG9 females. Since this was the only exception, it can be concluded that there were no differences between "identified gifted" and "unidentified gifted" females or between "identified gifted" and "unidentified gifted" males.

Table 6.3 also shows that males and females demonstrated the same pattern of change in achievement as aggregate groups. "Identified gifted" males and females showed a small but steady decline each successive year and showed a larger drop between grades 9 and 10 than "unidentified gifted" males and females. Though "identified gifted" had the highest GPA's in junior high school, particularly in grades 7 and 8, they lost their advantage by high school with both IG and UG groups achieving equally well. Whether the decline in GPA's for the "identified gifted" students was a function of the curtailment of gifted programs at the elementary school level or whether it was a function of developmental and/or curricular factors is unknown. The finding, however, that "unidentified gifted" students achieved as well as, or better than, "identified gifted" students in junior and senior high school suggests that gifted programming was not essential to academic success since the majority of "unidentified gifted" students "made it on their own" without access to such programming. Continuance of gifted programming into the junior high school grades for "identified gifted" students might well have maintained their GPA's at the level attained in grade 7, but because programs were not continued, it is unknown what their effect would have been.

C. GRADE 11 SUB-SAMPLE

1. BETWEEN - GROUP ANALYSIS

Analysis of achievement data for grade 11 "identified gifted" and "unidentified gifted" students similarly showed no substantive differences in the level of achievement between groups. Though there were slight differences in GPA'S at the various grade levels, the differentials were surprisingly small and with the exception of grade 8, did not exceed 2% points. In junior high, the median GPA for 11IG, 11UG6 and 11UG9 sub-groups was consistently >80% and in senior high, slightly lower but still >76% (see Table 6.4. See also Appendix 6 for a detailed breakdown of GPA's). The largest differentials were those between 11UG9 and 11IG sub-groups at the grade 7 and 8 level and the smallest at the grades 9 to 11 level.

TABLE 6.4

SUMMARY OF GPA MEDIANS FOR GRADE 11 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

MEDIANS	11IG	11UG6	11UG9
GRADE 7	82.3%	81.7%	80.7%
GRADE 8	83.0%	80.7%	80.0%
GRADE 9	81.0%	80.8%	80.4%
GRADE 10	77.6%	78.7%	77.8%
GRADE 11	78.0%	77.4%	76.4%
CHANGE BETWEEN GRADES 9 & 10	-3.4%	-2.1%	-2.6%

Table 6.4 also shows that with the exception of grade 10, the 11IG group consistently had slightly higher GPA's than the "unidentified gifted" groups. This is supported by the finding that proportionately more 11IG students scored >80% than 11UG6 or 11UG9 students (see Table 6.5). Proportions of the 11IG group scoring >80%, however, showed a consistent downwards trend with a total change of 26.1% points between grades 7 and 11.

"Unidentified gifted" groups similarly showed an overall downward trend in the proportion scoring >80% although they showed a discontinuous pattern of change between grades. 11UG6 students showed a slight increase from grade 7 to 9, decreased between grades 9 and 10 and then started to increase again (see Figure 6.3). The change from grades 7 to 11 was smaller than that for 11IG students (i.e., 17.6% compared to 26.1%), suggesting a greater stability in achievement levels.

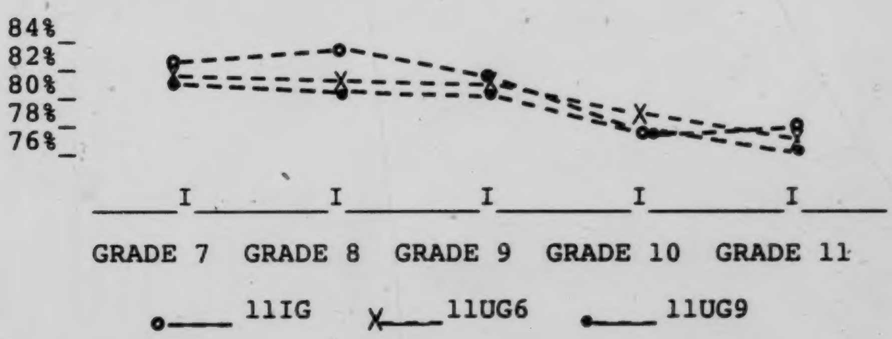
TABLE 6.5

SUMMARY TABLE OF GRADE 11 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS SCORING ABOVE 80% IN JUNIOR AND SENIOR HIGH SCHOOL

	11IG	11UG6	11UG9
GRADE 7	69.2%	57.2%	55.3%
GRADE 8	62.5%	61.3%	51.5%
GRADE 9	58.8%	63.6%	53.5%
GRADE 10	45.7%	38.6%	40.7%
GRADE 11	43.1%	39.6%	34.2%
CHANGE BETWEEN GRADES 7 & 11	-26.1%	-17.6%	-21.1%

FIGURE 6.3

PATTERNS OF ACHIEVEMENT FOR "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" GRADE 11 STUDENTS AS INDICATED BY GPA MEDIANS



11UG9 students, on the other hand, were more like 11IG students in that they showed a more consistent downward trend although they too showed a slight increase in grade 9. In terms of proportions scoring >80% in junior and senior high school, they had the smallest number of students scoring >80%. Thus, relative to 11IG and 11UG6 students, 11UG9 students were not as high achieving although as Table 6.4 shows, the overall level of achievement between groups was similar and no substantive differences were found.

Grade 11 "identified gifted" and "unidentified gifted" groups did not show as clear a pattern of change as the grade 10 groups showed. Their GPA medians changed from year to year but not necessarily in the same direction. The 11IG group showed a somewhat erratic pattern of change, sometimes moving upwards, sometimes moving downwards. The same was true for the 11UG6 group. Of the three grade 11 groups, only the 11UG9 group showed a consistency with all GPA medians moving downwards, albeit by an extremely small amount (see Table 6.4). All groups showed a change between grades 9 and 10 with the 11IG group showing the largest change, i.e., 3.4% GPA points compared to 2.1% and 2.6% for the 11UG6 and 11UG9 groups respectively. Figure 6.3 shows the respective patterns of change as indicated by changes in medians between grades 7 and 11.

C. 2. MALE/FEMALE DIFFERENCES

With respect to male/female levels of achievement, there were no substantive differences between males and females in any of the groups although females showed a larger decline than males between grades 9 and 10 (see Tables 6.6 and 6.7). Within gender groups, there was no difference between "identified gifted" and "unidentified gifted" females with all groups obtaining almost identical GPA medians. Though none of the differentials between 11IG and 11UG males exceeded 4%, 11UG9 males had marginally lower medians than 11IG and 11UG6 males (see Table 6.7).

TABLE 6.6

SUMMARY TABLE OF JUNIOR AND SENIOR HIGH SCHOOL
GPA MEDIANS FOR 11IG, 11UG6 AND 11UG9 FEMALES

MEDIANS	11IG	11UG6	11UG9
GRADE 7	82.8%	82.8%	82.5%
GRADE 8	83.9%	81.2%	82.5%
GRADE 9	81.3%	81.1%	81.6%
GRADE 10	77.4%	78.8%	77.8%
GRADE 11	78.8%	76.6%	77.3%
CHANGE BETWEEN GRADES 9 & 10	-3.9%	-2.3%	-3.8%

TABLE 6.7

SUMMARY TABLE OF JUNIOR AND SENIOR HIGH SCHOOL
GPA MEDIANS FOR 11IG, 11UG6 AND 11UG9 MALES

MEDIANS	11IG	11UG6	11UG9
GRADE 7	82.3%	77.8%	79.0%
GRADE 8	81.3%	79.5%	78.0%
GRADE 9	80.5%	80.0%	79.3%
GRADE 10	78.2%	78.0%	77.7%
GRADE 11	77.0%	77.9%	76.3%
CHANGE BETWEEN GRADES 9 & 10	-2.3%	-2.0%	-1.6%

Essentially then, analysis of achievement data for grade 11 "identified gifted" and "unidentified gifted" students showed little or no difference in the level of junior and senior high school achievement. Despite an inconsistent pattern of change between grades 7 to 11, there was a tendency for "identified gifted" students to show a larger change than "unidentified gifted" students over the grades, indicated by the change in proportions scoring >80% and by the larger drop in median GPA between grades 9 and 10. In this, they demonstrated the same overall tendency as demonstrated by grade 10 "identified gifted" and "unidentified gifted" students.

D. GRADE 12 SUB-SAMPLE

1. BETWEEN - GROUP ANALYSIS

Analysis of achievement data for 12IG, 12UG6 and 12UG9 groups showed a correspondence with patterns established by grade 10 and 11 groups. Table 6.8 shows the level of achievement of the respective groups, demonstrating that "identified gifted" and "unidentified gifted" were high achievers, the majority of whom were honors students. Less than a quarter achieved GPA's below 70% and those who did, tended to so in the last few years of high school (see also Appendix 6 for more detailed tables). Thus, as school became more difficult and as demands and expectations increased, grades were generally lower.

Analysis for the separate grade 12 "identified gifted" and "unidentified gifted" groups showed there were no differences between groups. The largest differentials were at the high school level although none exceeded 2.8% GPA points (see Table 6.8). The one major difference between groups was that "identified gifted" students showed a substantially larger decline than "unidentified gifted" students between grades 9 and 10, a similar finding to that for 10IG and 11IG students.

TABLE 6.8

SUMMARY OF GPA MEDIANS FOR GRADE 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS

MEDIANS	12IG	12UG6	12UG9
GRADE 7	82.8%	81.8%	82.5%
GRADE 8	83.5%	82.5%	83.0%
GRADE 9	82.8%	82.3%	81.0%
GRADE 10	79.0%	81.8%	81.3%
GRADE 11	77.0%	79.2%	79.3%
GRADE 12	78.6%	78.6%	81.4%
CHANGE BETWEEN GRADES 9 & 10	-3.8%	-0.5%	+.3%

Table 6.9 shows that proportions scoring >80% were fairly similar between groups. In grade 7, 12IG students had a slight advantage over 12UG6 and 12UG9 students but from grade 8 onwards, 12UG6 students had the advantage. Both 12UG6 and 12UG9 students surpassed 12IG students in high school. As shown, the change in proportions scoring >80% between grades 7 to 12 was largest for 12IG students, i.e., 25% compared to 18.5% for 12UG6 and 1.7% for 12UG9 students. The latter, however, showed a substantial change of approximately 8% between grades 10 and 11 and increased again between grades 11 and 12. This may have been due to

the loss of three students (or 9%) between grades 11 and 12 (see Appendix 6). The general trend, however, was for all groups to have fewer students scoring >80% in high school than had scored >80% in junior high.

TABLE 6.9

PROPORTION OF GRADE 12 "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" SCORING ABOVE 80%

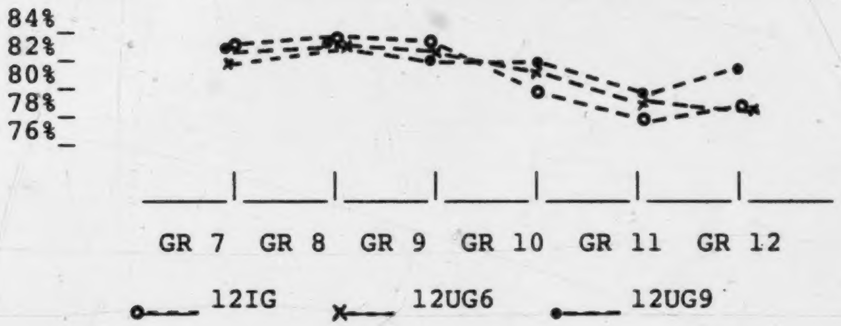
	12IG	12UG6	12UG9
GRADE 7	65.1%	63.0%	61.2%
GRADE 8	63.3%	65.2%	58.8%
GRADE 9	61.0%	66.7%	57.7%
GRADE 10	43.5%	52.0%	51.9%
GRADE 11	40.8%	44.9%	43.8%
GRADE 12	40.2%	44.5%	59.5%
CHANGE BETWEEN GRADES 7 AND 12:	-24.9%	-18.5%	-1.7%

Figure 6.4 shows there were no major differences in the pattern of change between grades 7 to 12 although 12IG students showed a substantially larger drop between grades 9 and 10, i.e., 3.8% points compared to .5% points for 12UG6 and a .3% increase for 12UG9 students. In this, 12IG students showed a consistency with 10IG and 11IG students since they too showed a larger drop between grades 9 and 10 than their "unidentified gifted" counterparts. This suggests that factors other than differential grading systems affected their achievement since "unidentified gifted" students were subject to the same changes in evaluation standards at the high school level as "identified gifted" students were. Given the consistency

with which all three "identified gifted" groups declined, the suggestion that other factors were operational seems highly probable.

FIGURE 6.4

PATTERNS OF ACHIEVEMENT FOR "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" GRADE 12 STUDENTS AS INDICATED BY GPA MEDIANS



D. 2. MALE/FEMALE DIFFERENCES

With respect to male/female differences in achievement, no substantive differences emerged between or within groups although differentials were larger between "identified gifted" and "unidentified gifted" females than between males and females in general (see Tables 6.10 and 6.11). In grade 7, 12IG females surpassed all groups with their median GPA of 85.8%, 3.3% - 3.5% points higher than all other 12IG and 12UG male and female groups. Then in grade 9, they surpassed only the achievement of male groups with a differential of 3% - 4% points. Rather interestingly, in senior high they were surpassed by both 12UG6 and 12UG9 female groups. This appeared to be a function of their substantially larger decline between grades 9 and 10 (5.8%

compared to only .3% for 12UG6 females and .9% for 12UG9 females).

TABLE 6.10

SUMMARY TABLE OF GPA MEDIANS FOR JUNIOR AND SENIOR HIGH SCHOOL FOR 12IG, 12UG6 AND 12UG9 FEMALES

	12IG	12UG6	12UG9
GRADE 7	85.8%	82.3%	82.5%
GRADE 8	84.3%	83.2%	84.4%
GRADE 9	84.8%	82.3%	83.0%
GRADE 10	79.0%	82.0%	82.1%
GRADE 11	77.0%	78.0%	79.2%
GRADE 12	78.7%	77.6%	79.2%
CHANGE BETWEEN GRADES 9 & 10	-5.8%	-.3%	-.9%

TABLE 6.11

SUMMARY TABLE OF GPA MEDIANS FOR JUNIOR AND SENIOR HIGH SCHOOL FOR 12IG, 12UG6 AND 12UG9 MALES

	12IG	12UG6	12UG9
GRADE 7	82.5%	81.6%	83.8%
GRADE 8	82.0%	82.5%	82.3%
GRADE 9	81.8%	82.0%	80.0%
GRADE 10	78.5%	81.8%	78.8%
GRADE 11	77.6%	80.2%	79.2%
GRADE 12	78.1%	78.7%	81.9%*
CHANGE BETWEEN GRADE 9 AND 10	-3.3%	-.2%	-1.2%

Males, on the other hand, showed smaller differentials between groups, none of which exceeded 4% and most of which were within a 2% spread. In other words, 12IG and 12UG males were more similar to each other than were 12IG and 12UG females; however, these small differentials between groups and between grades were not substantial and therefore, no differences in the level of achievement were found between IG and UG males and/or females.

E. SUMMARY

Analysis of achievement data for grade 10, 11 and 12 "identified gifted" and "unidentified gifted" students showed similar levels of achievement with few differentials between or within - groups exceeding 4%. At the junior high school level, medians were consistently in the low 80%'s for all groups and at the senior high school level, approximately 3% points lower. One consistent finding was that all three "identified gifted" groups showed a greater decline between grades 9 and 10 than "unidentified gifted" groups.

Another consistent finding was that females were generally higher achievers than males albeit differentials were small and seldom exceeded 3%. Females showed a slight decline in GPA's each successive year and then showed a substantial drop between grades 9 and 10. Males, on the other hand, achieved marginally lower than females but tended to remain fairly constant across the grades, showing little change from year to year and declining less between grades 9 and 10.

To conclude, no substantive differences emerged between groups with both "identified gifted" and "unidentified gifted" groups performing equally well throughout the grades and demonstrating that high IQ students tend to be high achievers regardless of whether or not they have participated in gifted programming. This finding suggests that the majority of gifted students "make it on their own" without special educational programming and that achievement levels are as high as their IQ scores would have predicted.

SECTION II

This section aggregates and summarizes achievement data for "identified gifted" and "unidentified gifted" cohorts in order to answer the following research questions:

> Do large numbers of gifted students, "identified or unidentified", achieve below the level at which they are capable? Is the percentage as large as the 55% suggested by Millar (1981:12)?
>
> Is there a difference between low achievers and high achievers in "identified gifted" and "unidentified gifted" groups of students in terms of SES and gender?

Analysis of achievement data for specific cohorts showed that the majority of "identified gifted" or "unidentified gifted" students achieved GPA's >70% in junior and senior high school with a relatively small proportion scoring <70% although this latter proportion was higher in senior high school than in junior high school. This was true for all grade groups as shown in Tables 6.12, 6.13 and 6.14 which summarize the findings from the cohort analysis of the previous section.

Given the consistency from cohort to cohort, Table 6.15 shows the GPA distribution from grades 7 to 12 for "identified gifted" and "unidentified gifted" aggregates.

TABLE 6.12

DISTRIBUTION OF GRADE 10 IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED LOW ACHIEVERS

	GR7 GPA				GR8 GPA			
GPA CATEGORY	IG N=130	UG6 N=46	UG9 N=172	TOTAL N=348	IG N=131	UG6 N=46	UG9 N=185	TOTAL N=362
60% - 69%	6 (4.6%)	4 (8.7%)	16 (9.3%)	26 (7.5%)	11 (8.4%)	6 (1.3%)	20 (10.8%	37 (10.2%
50% - 59%	1 (.8%)	0	2 (1.2%)	3 (.9%)	1 (.8%)	1 (2.2%)	7 (3.8%)	8 (2.2%)
LOWER	0	0	0	0	1 (.8%)	0	0	1 (.3%)

	GR9 GPA				GR10 GPA			
GPA CATEGORY	IG n=133	UG6 n=49	UG9 n=198	TOTAL n=380	IG n=120	UG6 n=46	UG9 n=181	TOTAL n=347
60% - 69%	13 (9.8%)	6 (12.2%	24 (12.1%	43 (11.3%	15 (12.5%)	9 (19.6%	29 (16.0%	53 (15.3%
50% - 59%	6 (4.5%)	2 (4.1%)	4 (2.0%)	12 (3.2%)	9 (7.5%)	3 (6.5%)	7 (3.9%)	19 (5.5%)
LOWER	1 (.8%)	0	3 (1.5%)	4 (1.1%)	1 (.8%)	0	3 (1.7%)	4 (1.2%)

TABLE 6.13

DISTRIBUTION OF GRADE 11 IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED LOW ACHIEVERS

GPA CATEGORY	GR7 GPA				GR8 GPA				GR9 GPA			
	IG N=104	UG6 N=42	UG9 N=150	TOTAL N=296	IG N=104	UG6 N=44	UG9 N=165	TOTAL N=313	IG N=104	UG6 N=44	UG9 N=168	TOTAL N=316
60% - 69%	6 (5.8%)	4 (9.5%)	16 (10.7%)	26 (8.8%)	7 (6.7%)	2 (4.5%)	13 (7.9%)	2 (7.0%)	4 (3.8%)	3 (6.8%)	10 (6.0%)	17 (5.4%)
50% - 59%	0	0	5 (3.3%)	5 (1.7%)	2 (1.9%)	0	6 (3.6%)	8 (2.6%)	5 (4.8%)	0	7 (4.2%)	12 (3.8%)
LOWER	0	0	0	0	0	0	0	0	0	0	1 (.6%)	1 (.3%)

GPA CATEGORY	GR10 GPA				GR11 GPA			
	IG N=105	UG6 N=44	UG9 N=162	TOTAL N=311	IG N=102	UG6 N=43	UG9 N=158	TOTAL N=303
60% - 69%	14 (13.3%)	5 (11.4%)	19 (11.7%)	38 (12.2%	20 (19.6%)	11 (25.6%	29 (18.4%	60 (19.8%
50% - 59%	9 (8.6%)	2 (4.5%)	10 (6.2%)	21 (6.8%)	3 (2.9%)	1 (2.3%)	8 (5.1%)	12 (4.0%)
LOWER	3 (2.9%)	0	3 (1.9%)	6 (1.9%)	3 (2.9%)	0	5 (3.2%)	8 (2.6%)

TABLE 6.14

DISTRIBUTION OF GRADE 12 IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED LOW ACHIEVERS

	GR7 GPA				GR8 GPA				GR9 GPA			
GPA CATEGORY	IG N=109	UG6 N=46	UG9 N=49	TOTAL N=204	IG N=98	UG6 N=44	UG9 N=51	TOTAL N=193	IG N=100	UG6 N=48	UG9 N=52	TOTAL N=200
60% - 69%	2 (1.8%)	1 (2.2%)	3 (6.1%)	6 (2.9%)	3 (3.1%)	2 (4.5%)	5 (9.8%)	10 (5.2%)	11 (11.0%	4 (8.3%)	4 (7.7%)	19 (9.5%)
50% - 59%	0	0	1 (2.0%)	1 (.5%)	0	0	0	0	1 (1.0%)	0	2 (3.8%)	3 (1.5%)
LOWER	0	0	0	0	0	0	0	0	0	0	0	0

	GR10 GPA				GR11 GPA				GR12 GPA			
GPA CATEGORY	IG N=101	UG6 N=50	UG9 N=52	TOTAL N=203	IG N=98	UG6 N=48	UG9 N=48	TOTAL N=194	IG N=92	UG6 N=45	UG9 N=42	TOTAL N=179
60% - 69%	21 (20.8%	8 (16.0%	9 (17.3%	38 (18.7%	17 (17.3%)	11 (22.9%	7 (14.6%	35 (18.0%	19 (20.7%	8 (17.8%	7 (16.7%	34 (18.9%
50% - 59%	1 (.9%	1 (2.0%)	4 (7.7%)	6 (3.0%)	8 (8.2%)	1 (2.1%)	4 (8.3%)	13 (6.7%)	5 (5.4%)	4 (8.9%)	3 (7.1%)	12 (6.7%)
LOWER	0	0	0	0	1 (1.0%)	1 (2.1%)	0	2 (1.0%	2 (2.2%)	1 (2.2%)	0	3 (1.7%)

TABLE 6.15

DISTRIBUTION OF GRADE POINT AVERAGES FOR IDENTIFIED GIFTED (IG) AND UNIDENTIFIED GIFTED (UG6 & UG9) IN JUNIOR AND SENIOR HIGH

	GR7 GPA			GR8 GPA			GR9 GPA		
GPA CATEGORY	IG* N=343	UG6 N=134	UG9 N=371	IG N=333	UG6 N=137	UG9 N=401	IG N=337	UG6 N=141	UG9 N=418
90% +	8.2%	7.5%	8.4%	10.2%	10.2%	8.2%	13.1%	10.6%	8.9%
80% - 89%	60.1%	53.0%	46.1%	52.3%	51.8%	44.4%	46.0%	51.1%	44.7%
70% - 79%	27.4%	32.8%	34.0%	30.0%	29.9%	34.7%	28.8%	27.7%	33.3%
60% - 69%	4.1%	6.7%	9.4%	6.3%	7.3%	9.5%	8.3%	9.2%	9.1%
50% - 59%	.3%	0	2.2%	.9%	.7%	3.2%	3.6%	1.4%	3.1%
LOWER	0	0	0	.3%	0	0	.3%	0	.9%

	GR10 GPA			GR11 GPA			GR12 GPA		
GPA CATEGORY	IG N=326	UG6 N=140	UG9 N=395	IG N=200	UG6 N=91	UG9 N=206	IG N=92	UG6 N=45	UG9 N=42
90% +	6.1%	8.6%	5.3%	6.5%	4.4%	3.4%	4.3%	6.7%	7.1%
80% - 89%	37.1%	36.4%	39.2%	35.5%	38.5%	33.0%	35.9%	37.8%	52.4%
70% - 79%	34.4%	35.0%	34.2%	32.0%	29.7%	37.9%	31.5%	26.6%	16.7%
60% - 69%	15.3%	15.7%	14.4%	18.5%	24.2%	17.5%	20.7%	17.8%	16.7%
50% - 59%	5.8%	4.3%	5.3%	5.5%	2.2%	5.8%	5.4%	8.9%	7.1%
LOWER	1.2%	0	1.5%	2.0%	1.1%	2.4%	2.2%	2.2%	0

* All identified gifted and unidentified gifted have been combined, regardless of grade to determine the distribution of IG, UG6 and UG9 students having grade 7 - 12 GPA's in the various GPA categories.

As noted, "N" varies in the respective GPA categories because achievement scores were dependent upon the grade in which students were enrolled, i.e., grade 10 students had GPA's only for grades 7 - 10; grade 11 students for grades 7 - 11 and grade 12 students for grades 7 - 12. Thus, the variation of "N" in Table 6.15 is a function of the grade level in which students were registered as well as the fact that some students were away for a year and consequently, did not have scores for a given year.

As shown, the proportion scoring below 70% in junior high school ranged from 4.4% to 13% with the UG9 cohort having the largest proportion scoring below 70% in grades 7 and 8 but with UG9 and IG cohorts having similar proportions (12% - 13%) in grade 9. Of the three cohorts, the UG6 cohort had the smallest proportion scoring <70% although differentials were small. Only in grade 7 and 8 was there a difference (approximately 5%) between "identified gifted" and "unidentified gifted" cohorts with little or no difference in the following years.

In high school, proportions in the different GPA categories were similar between cohorts. Approximately 40% - 45% of the "identified gifted" and "unidentified gifted" students were honors students, another 30% - 38% were "B" (70% -79%) students and the remaining 20% -27% were scoring below 70%. In summary then, aggregate analysis showed there was little or no difference in proportions scoring >70% or <70% between "identified gifted" and "unidentified gifted" in junior and/or senior high school.

This picture changed somewhat when achievement of individual students scoring <70% was analyzed. The proportion scoring consistently below 70% was considerably lower than Tables 6.12, 6.13 and 6.14 showed because the majority of students scoring <70% did so in one grade only or perhaps two, with their other GPA's above 70% (see Table 6.16).

TABLE 6.16

NUMBER OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" CONSISTENTLY SCORING BELOW 70% IN GRADES 7, 8 AND 9

	SES #1	SES#2	SES#3	SES#4	SES#5	SES#6	UNKNOWN
10IG			1M	4M/1F			
11IG	1M			2M			
12IG				1F			
10UG6	1M		1M		1M		
11UG6				1M			
12UG6							
10UG9	2M	1M	1M/3F		1M		
11UG9	1M/2F		4M/1F	2M*	1M		1F
12UG9	1F			1M			
TOTALS	5M/3F	1M	7M/4F	10M/2F	3M		1F

* Totals differ by 1 from the individual breakdown statistics since one male was in both 11UG6 and 11UG9.

In most cases, the GPA of those scoring below 70% was within 2 points of 70%, e.g. 69.3% or 68.8%. To use Whitmore's (1980) categorization, the majority were temporary/situational underachievers precipitated "by a temporary period of disturbance, such as divorcing parents, ill health, or a consuming interest, or by a situation such as moving to a new school or experiencing a personality conflict with the teacher" (1980:170). These situational factors were clearly identified by some of the low achieving interviewees who indicated that it was the transition from junior to senior high that was the major factor in their decline. They found the high school too large, too impersonal and somewhat frightening compared to the smaller community junior high schools they had attended in grades 7 - 9. They found they had to adjust not only to the high school environment but also to the differing expectations between classes and increased work load, the consequence being their grade 10 GPA's were lower than their grade 9 GPA's had been. For many, once they adjusted to the situation, their achievement returned to former levels.

An example of this situational type of underachievement is the case of a male student whose junior high GPA's were all above 80% but whose grade 10 GPA was 67.4%. In the interview, he indicated it took quite a while to get used to the high school setting which he described as "a factory where they process people". He found it extremely difficult to make friends and to get used to the "impersonalized" style of teaching in the classroom. As a consequence, his marks suffered during that year but his grade 11 and 12 GPA's were higher, 77.8% and 79.8% respectively. Another student said, "It was such a transition from grade 6 to grade 7 and from grade 9 to 10. I didn't know how to study and it took a while to get in the groove..."

In a number of other cases, students described problems they had with specific teachers, indicating their only low marks were in those teachers' classes. One female student indicated she had a "bad experience in grade 9" with a male math teacher who constantly "put her down" every time she asked a question, indicating he yelled at her whenever she couldn't understand his explanation. As she said, "I didn't understand why he was yelling. I felt stupid when I asked certain questions... I have high goals and get so upset when I get low marks ..." This sensitivity in her relationship with the teacher, combined with her admitted test anxieties, worked together to pull her marks down. Her grade 9 GPA was 65.8% whereas all her other GPA's in junior and senior high school were in the 70%'s and 80%'s.

Another student indicated there had been a personality conflict between himself and the teacher. He ultimately chose not to attend that teacher's classes and barely passed that course, receiving a mere 45% (pass mark = 40%). This pulled his GPA down to 76%, considerably lower than he was accustomed to receiving.

Other similar situations were recounted by interviewees, all examples of the temporary/situational type of underachievement specific to one subject and/or to one year of schooling, demonstrating well that the duration and scope of underachievement varies and should always be considered prior to generalizing about underachievement of gifted students. These situations also demonstrate the powerful dynamics existing between teachers and students, and the students' consequent resistance to teacher attitudes, demands and expectations which they perceive as threatening, unreasonable and/or antagonistic.

Tables 6.16, 6.17 and 6.18 show the results of tracking the individual students in the sample over the junior and senior high school years. As was shown in Table 6.16, there were only 35 "identified gifted" and "unidentified gifted" students (35/896 or 3.9%) consistently scoring <70% in grades 7, 8 and 9, the majority of whom were male, i.e., 25/35 or 71.4%. Of the 35, only three (all SES#4 males) appear to have dropped out of school whereas the others continued into high school and maintained GPA's <70%. Twice as many UG9 students (22 or 14M/8F) as IG students (10 or 8M/2F) scored <70% although relative to their respective proportions in the total sample, neither appeared to have more low achievers than the other (IG = 10/366 or 2.7%; UG9= 22/418 or 5.3%). What is significant, however, is that of the 10 "identified gifted" students (8M/2F) scoring <70%, all but two were from the lowest SES classes (i.e., SES#4, SES#5 and SES#6). In other words, four times as many low SES "identified gifted" students scored <70% in junior high as high SES IG students. "Unidentified gifted" students, on the other hand, had more high SES students (11M/7F) scoring <70% than low SES students (6M/1F). When SES was controlled, little difference emerged between high SES (SES#1, 2 & 3) and low SES (SES#4, 5 & 6) low achievers with both having approximately the same number of students scoring <70% (20 high SES/16 low SES) and approximately the same proportion relative to their own proportion in the larger sample (high SES = 20/639 or 3.1%; low SES = 16/313 or 5.1%). This latter finding, however, was based on SES origins determined by residential data.

In examining the occupational data for these individual low achievers, a rather interesting finding emerged -- the majority did not have occupational data. Of the 10 "identified gifted" students consistently scoring <70% in junior high school, 7 did not have occupational data and the three which did (2M/1F), lived in SES#4 communities and had fathers who managed small service shops. Of the 25 "unidentified gifted" students consistently scoring <70% in junior high, 72% (or 18/25) did not have occupational data -- almost the same percentage as "identified gifted" students. Of those UG students having occupational data (3M/4F), three lived in SES# 3 communities but had fathers occupied in the trades and services (truck driver, machinist and utility serviceman). Since the majority of UG low achievers lived in SES#3 communities, perhaps they too were of low SES origin. Conclusions regarding the SES origins of this small group of low achieving "identified and unidentified gifted" students, therefore, remain tentative.

Further analysis of individual achievement profiles showed that an additional 63 students (63/896 or 7%) began their decline in grade 8 or 9 and continued to score below 70% for the duration of their schooling (see Table 6.17).

Neither "identified gifted" nor "unidentified gifted" cohorts appeared to have a larger proportion than the other, i.e., IG = 7.7% (26/337); UG6 = 8.5% (12/141); UG9 = 6.2% (26/418). Approximately 2/3 (40/63 or 63.5%) were male and 69% (44/63) lived in SES#1, SES#2 and SES#3 communities. Occupational data were unavailable for 38.1% (or 24/63) of this total group, the majority (n=9) of these being 10UG9 students.

TABLE 6.17

NUMBER OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS BEGINNING DECLINE IN GPA'S IN GRADES 8 OR 9

	SES#1	SES#2	SES#3	SES#4	SES#5	SES#6
10IG	1M/4F	1M/1F	1M	1M/1F		
11IG	1M	1M	1M/1F	1M	2M/2F	
12IG	1M	1F	2M	2M	1F	
10UG6	1M		1M/1F	1F		
11UG6	3M					
12UG6	1M	1M		1F	2M	
10UG9	1M/2F	1F	6M/2F	1M	2M	
11UG9	1M/2F	1F	2M*		1F	
12UG9	1M	1M	1M		1M	
TOTALS:	11M/8F	4M/4F	14M/4F	5M/3F	7M/4F	
	(60M/23F*)					

*One male was in both 11UG6 and 11UG9 and is counted only once.

Table 6.18 shows that 78 "identified gifted" and "unidentified gifted" students (34 grade 10's, 30 grade 11's and 14 grade 12's) began their decline in grade 10 although their junior high school marks had consistently been >70%. There was little difference between males and females in terms of absolute numbers (39M/39F) or of

TABLE 6.18

GRADE 10 IDENTIFIED AND UNIDENTIFIED GIFTED STUDENTS SCORING BELOW 70%

	ONLY GRADE 10 GPA <70%			NO GRADE 10 GPA'S JH GPA'S ONLY		
SES CATEGORY	10IG	10UG6	10UG9	10IG	10UG6	10UG9
SES01	1M/1F		1M/1F			
SES02	1M/1F		1M			
SES03	1M/2F	1M/3F	5M/4F	1M/1F	1M*	2F
SES04	1F		2M/2F	2M/1F	1M	1M
SES05	1M/2F		1M/2F			1M
SES06						
TOTALS	4M/7F	1M/3F	10M/9F	3M/2F	2M	2M/2F

GRADE 11 IDENTIFIED AND UNIDENTIFIED GIFTED STUDENTS SCORING BELOW 70%

	GRADE 10 GPA <70%			ONLY GRADE 11 GP <70%			NO HIGH SCHOOL GPA'S JH GPA'S ONLY		
SES CATEGORY	11IG	11UG6	11UG9	11IG	11UG6	11UG9	11IG	11UG6	11UG9
SES01	3M/1F		1M/1F	1M/1F	1M/2F	3M/4F*			
SES02	1M		2M	1F	1M				
SES03	1M/2F	1M/1F	3M/1F*			4M/2F			2M
SES04	2M/4F		1M/2F		1F	1M/1F*	1M/1F		1F
SES05	1F		2M	1M/1F	1F	2F*			
SES06									
TOTALS	7M/0F	1M/1F	9M/4F	2M/3F	2M/4F	8M/9F	1M/1F	0	2M/1F

*IN BOTH UG6 AND UG9 SUB-GROUPS

GRADE 12 IDENTIFIED GIFTED AND UNIDENTIFIED GIFTED SCORING <70%

	GRADE 10 GPA <70%			GRADE 11 GPA <70%			ONLY GRADE 12 GPA <70%			NO HIGH SCHOOL GPA'S ONLY JUNIOR HIGH GPA'S		
SES CATEGORY	12IG	12UG6	12UG9	12IG	12UG6	12UG9	12IG	12UG6	12UG9	12IG	12UG6	12UG9
SES01	2M		1F	1F	4M	1M		1M	2M	2M		1M/1F
SES02	1M											
SES03			1M/1F	2M/1F	1F	1M/1F			1F		1M	2M*
SES04	1F	1M/1F	1M/1F	1M/2F	1M		2F	1F		2M		2M
SES05	1M/2F				1M		1M			1F	2M	1M
SES06												
							3M					
TOTALS	4M/3F	1M/1F	2M/3F	3M/4F	6M/1F	2M/1F	4M/2F	1M/1F	2M/1F	4M/1F	2M	6M/1F

relative proportions vis à vis the aggregates (M=39/459 or 8.5%; F= 39/403 or 9.7%). Though a few increased their GPA's the following year, the majority maintained their GPA's in the 60% - 69% range. Table 6.18 also shows the number of students whose GPA's dropped below 70% in grade 11 and in grade 12, demonstrating that the higher the grade, the larger the number of students scoring <70%. Little difference emerged between "identified gifted" or "unidentified gifted" or between males and females at this level of schooling.

Analysis also showed that few left the system and/or dropped out of school. Only 31 students (31/896 or 3.5%) whose junior high school grades were consistently <70% did not have any recorded high school grades. Approximately 3/4 (23/31 or 74.2%) were male, over half (14/23) of whom were from the three lowest SES classes. Even though few appeared to have dropped out of school, the ones who did tended to be lower class males (see Table 6.18). However, because these students were not individually followed up, exactly how many dropped out is unknown. Whatever their number, they constituted an extremely small portion of the total sample of "identified gifted" and "unidentified gifted" students.

Table 6.19 aggregates the data provided in Tables 6.16, 6.17 and 6.18 in order to summarize the total number of individual "identified gifted" and "unidentified gifted" students scoring <70% at some time during junior and senior high school. Several important findings emerged. The first is that the majority were male (155/259 or 60%) and the second is that there were more lower class students achieving <70% than higher class students relative to their proportion in the total sample. These findings support the conclusion that relatively few gifted students are low achievers but the ones who are, tend to be male and/or lower class.

TABLE 6.19

TOTAL NUMBER OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" STUDENTS OBTAINING GPA'S <70% IN ONE OR MORE JUNIOR AND SENIOR HIGH SCHOOL GRADES*

	MALE			FEMALE			TOTAL
GRADE	10	11	12	10	11	12	
SES#1	8	16	16	8	13	4	65
SES#2	4	5	3	3	2	0	17
SES#3	20	18	9	18	8	5	78
SES#4	12	11	11	7	10	10	61
SES#5	7	6	9	4	8	4	38
TOTALS	51	56	48	40	41	23	259

*Figures under each grade include all IG, UG6 and UG9 students with GPA's <70% in one or more years of junior or senior high school.

SUMMARY AND DISCUSSION

From these findings, it can be concluded that the majority of gifted students, whether or not they have had access to gifted programming, are academically successful and are not early leavers. Less than 5% appear to have dropped out of school with neither "identified gifted" nor "unidentified gifted" having a larger drop out rate than the other. The "myth" that they will not make it on their own without special programming appears to be just that -- a myth! Some may not "make it" but if this student population is any indication, the greatest percentage do. Whether or not they go on to university and achieve success in the adult world requires further investigation but if GPA's are the criterion for "making it" at school, then these gifted students have "made it". There may well be large numbers of gifted students who do not "make it on their own" and who contribute to the tremendous loss of talent; however, they do not appear to be the ones that group IQ tests successfully identify.

Depending upon one's interpretation of underachievement and the assumed relationship between IQ and performance, it can be argued that relative to their IQ level, their achievement was lower than expected especially since studies in the past have considered GPA's below 80% or 85% to be underachievement. If GPA's below 80% had been used to differentiate high achievers from low achievers in this particular study, then slightly more than 50% would have been considered underachievers, at least at the high school level.

It can also be argued that the "measuring stick", i.e., the GPA, was based on the "average" and did not, nor could not, give a fair or accurate indication of their achievement level or whether or not they were achieving their potential. Capable of so much, they were being compared with non-gifted students on the basis of the same exams. Just because they received higher marks did not necessarily mean they were "realizing their potential". It merely meant they received higher grades on tests which were geared to the average and which did not test their abilities. Thus, even though they were obtaining high GPA's relative to their non-gifted peers, they still might have been underachieving relative to their own abilities. The fact remains, however, they were not underachieving relative to other groups in high school nor were they dropping out of school in disproportionate numbers as proponents of gifted programs would have us believe.

Perhaps somewhat different findings would have been obtained if students having only non-verbal IQ scores >130 had been followed-up but they were excluded from the analysis because they were not directly comparable to "identified gifted" students. If there were drop outs and underachievers among the gifted, then it is quite likely that it was in this group of discrepant scorers, a probability that was suggested by the many cases encountered in the preliminary analysis of IQ data. If, however, giftedness was to be measured by high IQ scores (130+) as it was in this study (and as it is throughout North America), then this type of talent did not appear to be the one that was "wasted" or "lost" in the school system, at least not in the school system whose gifted student population was the subject of inquiry.

CHAPTER VII

QUALITATIVE DATA ANALYSIS

Analysis of quantitative data in the previous chapters showed that the majority of "identified gifted" and "unidentified gifted" students were high achievers and that relatively few scored <70% in junior and senior high school. Analysis also showed that their SES profiles were similar although their ability profiles differed in the pattern of performance and in the pattern of change between grades 6 and 9. The quantitative data, therefore, were able to answer most of the research questions underlying the study although they were unable to completely answer one of the most important ones, i.e., " Do students who participate in gifted programs succeed academically and if not, why not?"..

It is a critical question since it lies at the root of the advocacy issue. According to gifted program advocates, gifted students need special programming if they are to maximize their potential and be academically successful. Yet a number of "identified gifted" students were not academically successful even though they had participated in gifted programs. Was it, therefore, the nature and extent of gifted programming that was somehow responsible for their low achievement especially since the programs they attended had been of a part-time nature, i.e., 1/2 to 1 day per week, and offered only at the elementary level?

Or, were there other structural and psychological factors that contributed to their low achievement which could not simply be eradicated by the implementation of gifted programs?

If their low achievement stemmed from the lack of intensive and continued programming in junior and senior high school, then why did this lack not appear to affect the other "identified gifted" students in the same way? Would they not also be achieving poorly in junior and senior high school? Yet, analysis showed that over 85% were achieving >70% in junior and senior high school with over half maintaining GPA's in the Honors range in junior high school and slightly less than 50% in senior high school. Then too, and very importantly, would it not have affected those gifted students who had never participated in gifted programming? These particular students, i.e., the "unidentified gifted", had never been identified as gifted nor provided with any formal type of interventionist programming yet their achievement was equal to, or better, than the achievement of the "identified gifted" students, particularly at the high school level. If gifted programming was necessary to ensure academic success and prevent underachievement, then why were there not more "unidentified gifted" students than "identified gifted" students achieving poorly and/or dropping out of school? Furthermore, if gifted programming was necessary, then why did some of the "identified gifted" students not appear to have benefitted from it? For them, gifted programming was obviously not sufficient to guarantee academic success whereas for the majority of "unidentified gifted" students, it did not even appear necessary. Would continued gifted programming then, have made a difference for these low achieving "identified gifted" students and would they have wanted to participate in such programming even if it had been offered? In other words, would gifted programming have been the solution to their underachievement or were there other factors that a mere administrative solution could not redress?

It is these questions which could not be answered by quantitative data and which necessitated the use of qualitative data since only those most affected, i.e., the gifted students, were the ones best able to answer them. For this reason, a sample (nature and size of sample discussed on next page) of low achievers and high achievers was interviewed to find out whether or not they could identify the factors contributing to their respective levels of achievement and whether or not these factors could be enhanced or mitigated by the implementation of gifted programs.

This chapter is organized into three sections to discuss and summarize the interview data in order to answer the latter part of the research question, "Do students who participate in gifted programs succeed academically and if not, why not? "

The first section of the chapter includes a discussion of the interview sample and the way in which it was selected. The second section includes a summary of aggregate perceptions and is organized as follows:

A. Attitudes Towards Self
  1. Perceptions of Self as Student and as Learner
  2. Personal Goals and Aspirations
  3. Important Personal Values

B. Attitudes Towards School
  1. General Attitudes
  2. Attitudes Towards Teachers
  3. Attitudes Towards Ability Grouping

C. Summary

The third section presents nine case studies to show how individual students negotiated the level of their academic achievement as well as to show the range of attitudes which seemed to typify gifted students.

SECTION I

INTERVIEW SAMPLE

In order to explain why some of the gifted students did not achieve as well as others, samples of low achievers and high achievers were interviewed. Low achievers (LAch) were those who scored <70% in junior and senior high school and high achievers (HAch) were those who scored >70%. Students were selected for the interview sample from five co-operating high schools to ensure that ...

(1) there was approximately the same number of "identified gifted" and "unidentified gifted" high achievers and low achievers

(2) students were in grade 11 or 12 since they were in the

best position to reflect upon their schooling

(3) there was a fairly equal representation of students from different SES communities

Five high schools in different SES communities were approached for participation in the study, all of whom agreed to have their students involved. Initial plans included the selection of approximately 12 to 15 students for the interview sample from each of the participating high schools, the number of interviewees purposely being limited to prevent the possibility of students discussing the questions amongst themselves prior to the interview. Because two of the schools were extremely small, it was highly probable that the interviewees knew each other and that the questions would be discussed beforehand. Therefore, by interviewing only as many students as could be seen in 1 or 1 1/2 days at a given school, it was hoped that student responses would remain relatively spontaneous and unrehearsed. Final selection of interviewees was based on parent and student approval (See Appendix 4 for letter of approval).

As shown in Table 7.1, there was an unequal number of students in the final interview sample from each of the schools. This is because there were fewer than 12 "identified gifted" and "unidentified gifted" students in two of the high schools and because not all students chose to participate. Though other high schools with larger numbers of gifted students could have been asked to participate in the study, they would have heavily biased the interview sample towards high SES students since they were primarily middle/high SES schools. Thus, to maintain a balance of the various SES strata in the sample, the schools, rather than the students, determined the ultimate number of students included. This resulted in 66 students in the five high schools being approached about participating in the study. One of these students declined, another dropped out mid-year and another five neglected to respond to the letter. All seven were "unidentified gifted" male low achievers and with the exception of two, attended lower/middle class high schools. A total of 59 students comprised the final sample, Table 7.1 showing its distribution and Table 7.2 showing the individual SES characteristics.

TABLE 7.1 .

CHARACTERISTICS OF INTERVIEW SAMPLE

SCHOOL	IDENTIFIED GIFTED		UNIDENTIFIED GIFTED	
	H/ACH	L/ACH	H/ACH	L/ACH
A (UPPER SES)	5(4M/1F)	4(2M/2F)	2(2M)	2(1M/1F)
B (UPPER SES)	2(1M/1F)	1(1F)	6(4M/2F)	3(1M/2F)
C (MIDDLE SES)	11(5M/6F)	3(2M/1F)	2(2M)	2(1M/1F)
D (LOWER MIDDLE)	1 (1F)	1(1M)	1(1F)	2(1M/1F)
E (LOWER MIDDLE)	4(3M/1F)	2(1M/1F)	4(3M/1F)	1(1F)
TOTALS	23(13M/10F)	11(6M/5F)	15(11M/4F)	10(4M/6F)

As shown, the final sample included 64.4% (38/59) high achievers and 35.6% (21/59) low achievers, the variation in number being a function of two factors:

(1) the distribution of 11IG, 11UG, 12IG and 12UG high achievers and low achievers at the participating high schools

(2) the student's atypicality with respect to others at that particular school (e.g. the highest IQ scorers, the highest GPA's, the greatest decline in a year...) In only two schools, however, was there a choice since the number of gifted students was limited.

TABLE 7.2

INDIVIDUAL SES CHARACTERISTICS OF INTERVIEW SAMPLE
BASED ON RESIDENTIAL DATA

	IDENTIFIED GIFTED N=34			UNIDENTIFIED GIFTED N=25*.		
	TOTAL	GROUP	LACH	TOTAL	GROUP	LACH
SES #1	8.8%	(3 M)	2M	12.0%	(3M)	/
SES #2	8.8%	(1M/2F)	/	16.0%	(4M)	2M
SES #3	32.4%	(6M/5F)	1F	28.0%	(1M/6F)	1M/4F
SES #4	35.3%	(6M/6F)	4M/2F	32.0%	(4M/4F)	1M/2F
SES #5	11.8%	(2M/2F)	2F	8.0%	(2M)	/
SES #6	2.9%	(1M)	/	/		/

*Residential and Occupational SES unknown for one UG male

To summarize student perceptions and awareness of the hidden curriculum with its implicit message systems, two different modes of reporting are used. The first mode presents a summation of aggregate perceptions and the second presents nine case studies in order to provide a holistic view of the way in which students participate in the construction of social reality and the way in which they pattern their behaviours accordingly. It is important to obtain this perspective since their achievement behaviours appeared to be predicated upon a unified system of beliefs they had about themselves and their ability to perform the student role. They appeared to be very aware of the various elements of the hidden curriculum, indicating there were rules, routines and regulations to which they were expected to adhere but indicating also, that these rules, routines and regulations varied with different teachers and different environments. Conformity to these demands and expectations yielded teacher approval and better grades but it also yielded peer disapproval. They knew that teachers' categorizations gave rise to differential expectations and differential treatment -- all of which suggested that students were very aware of the expectations teachers had of good students and that they consciously engaged in an ongoing assessment of their teachers and peers, acting in ways consistent with these perceptions.

SECTION II

AGGREGATE STUDENT PERCEPTIONS

These data are reported and discussed in two major sub-sections: (A) Attitudes towards Self and (B) Attitudes towards School. Each sub-section is further sub-divided as follows:

A. Attitudes Towards Self
   1. Perceptions of Self as Student and as Learner
   2. Personal Goals and Aspirations
   3. Important Personal Values

B. Attitudes Towards School
   1. General Attitudes
   2. Attitudes Towards Teachers
   3. Attitudes Towards Ability Grouping

A. ATTITUDES TOWARDS SELF

1. ATTITUDES TOWARD SELF AS STUDENT AND AS LEARNER

(a) HIGH ACHIEVERS

> "I'm not a model student. Workwise, I work hard, never talk back to teachers, get along well with teachers, a pleasant student. I do work hard and do what is asked... a little too much socializing though ... "

> "I want to do my best... I complete assignments, pay attention, try not to disrupt, try to get as much out of class as possible. "

> "I go to class, listen and work in class. I don't do much at home unless it's essential. Sometimes I answer questions in class, voice disagreements... I do as much work as I need to get by. I make sure I get the 85% -- don't go all the way like a 90%. I set honors as a goal -- well, I don't do it all the time. I can achieve the goals I set for myself and then work towards picking up my marks."

> "I'm more of a learner than a student, haven't reached the peak. Most students play the role because they have to ... I don't think I'm gifted. Anybody could do what I've done if they applied themselves. I'm interested in learning ... need motivation, effort, must develop it in yourself. It first comes from my parents. It really has to be developed by outside factors..."

As indicated in the above comments, high achievers clearly saw a distinction between being a student and a learner with a model student being one who essentially conformed to teacher demands and expectations and one who earned the highest grades. Few saw themselves as model students although most saw themselves as being good students, feeling they could be much better if they were more attentive, worked more consistently, met deadlines and studied harder. There were quite a number, males in particular, who admitted to "being lazy, very lazy" and to procrastinating, partly because they were not interested in the subject and partly because they did not have good work habits. The majority, however, focused on study habits as the underlying reason why they were not ideal students, indicating their early years taught them to get by with little or no effort or self-discipline. Consequently, they had "learned to be lazy" and found themselves ill-equipped to meet the demands and expectations of the high school program. Thus, they procrastinated, left their assignments to the very last minute and sacrificed the quality of work they knew they could produce. This created a sense of anxiety and frustration for many of them, well expressed in the following comments.

> " ... unambitious, lazy, fluttering up and down in terms of interest and effort. It's easy to do well. A lot of courses are too easy. You don't learn how to exert yourself, never really put effort in. I've never had to study ... find it hard to concentrate..."

> "I'm not a very good student. I get very high marks but not because I'm a good student. I work 6 days a week, for 3 to 4 years now so I don't have time for hobbies. I'm happy with my marks. Don't like to be teacher's pet - those that get 80's and 90%'s all the time -- it's okay to get great marks but not to suck up to teachers. I don't study at home, I like to work when I'm in class. School treats you like a child, they don't trust you, no discussions, no decisions... "

> "...probably not a very good student, fairly slow in picking up concepts, have little empathy, don't do much as a student. Principally, there's just memorizing and I don't memorize well. I often ignore work

> because the teachers aren't checking. Until this year, I didn't have to work at all ..."
>
> "I know I'm not the best -- really lazy. That's one of the worst things about me. I procrastinate. I could do better in Social and English if I worked and didn't procrastinate. I procrastinate partly because I'm not interested and because they're really not my strengths. Math and Science are much better but my work is always done ..."
>
> " I don't work as hard as I could. I work fairly hard but feel I could do better - one always wants to be the best. I put pressure on myself and am a perfectionist. As a learner, I like to learn. I'm fairly quick, quite motivated, initiate my own learning and will pursue things by myself."
>
> "I'm not disciplined enough. No deadlines set, gave me bad habits. Now I find things pile up... if I tried harder I know I could be pulling off fantastic marks but a lot of things would suffer. I could do better but I'm lazy..."
>
> "My achievement could be better. I apply the term underachiever to myself. I wish I had better work habits. When I don't have to, I don't work hard, procrastinate and leave things to the end. I dropped in elementary and junior high. Now, I'm picking up because I'm trying more. I want to go to university. I learn what I have to learn -- people feel if you don't get the marks, you don't know it or haven't learned it..."

Even though they felt they were not necessarily the best students, they were still able to achieve the high grades they wanted, partly because they did whatever assignments were expected of them and partly because there were lax standards in many of the classrooms. They knew, however, they were not studying as hard as they could but as one of the boys said, "It's easy to do well. A lot of the courses are too easy." There were others, although they were a minority, who felt they were already doing their best and could not really improve their performance. As one said, "I'm an overachiever. I'm an honors student, athletically tops -- one who always wants more than they have..." and another said, "I'm a good student. I do my work, try to do the best all the time. I'm a perfectionist..." And another,

> "I'm quite pleased with my achievement. I've always been an honors student; I have to get an 80% otherwise I'm not satisfied. I set my own goals. I'm a perfectionist. I know I can get 80% or higher if I try my hardest."
>
> "I worry a lot, try to get my homework done, I'm shy, don't talk a lot... set standards for myself. Always try to do my best. Internal pressure is the greatest but I feel it's worth it."

One female who topped both IQ and achievement scales said, "If I'm interested, I'm an exceptionally good student, if I'm not, I dance on desks, talk ... as far as my achievement, I don't have to worry about it. Sometimes, I don't feel I have to be better -- how much better can you do?" With GPA's consistently in the 90%'s, she felt her achievement was more than adequate.

Being a perfectionist was something many claimed to be and this characteristic partly explained why they felt they were not doing as well as they could have even though their marks were in the 80%'s and 90%'s. This need to be perfect was apparent in many of their comments particularly through the perceived discrepancy they saw between the perceptions they had of themselves and those they felt their teachers had of them. This was clearly articulated by one boy who asked whether he was to describe himself as he saw himself or as his teachers saw him. Typically though, they appeared to have higher standards and expectations of themselves than others had of them and therefore, they were quite critical of their efforts when they did not achieve their personal goals.

In general then, there was an awareness of the student role and the duality of expectations within it, i.e., the skills and competencies to perform the tasks required in the student role, and the capacity to "live up to other people's expectations of the interpersonal behaviour appropriate to these roles." (Parsons, 1959:130) They were also aware of the degree to which they were fulfilling these dual expectations, feeling a general commitment not only to the ideal of success and achievement but also to the performance of the necessary role to ensure that success. Their own goals and expectations were very much a part of these general goals with high standards and academic success being personally important and worth achieving.

Despite their apparent conformity to behavioural expectations, however, there was an objection to some of the demands with respect to the way in which they completed assignments or resolved problems. One student, a consistent 90% + achiever, said, "I don't see myself as an ideal student. I don't listen to teachers... I do work on my own. I can take it and figure it out on my own, do it a different way..." The obvious consequence was that he "didn't get along" with a lot of his teachers and his marks were lower than he felt they should have been.

Another student similarly appeared quite upset with one of her English teachers who insisted students use a certain writing style. As she said, "I don't conform to modes of writing. I want to write in my own style..." Her marks in English were lower than she felt they should be, attributing the discrepancy between the grade she received and the grade she thought she should receive to their disagreement on writing style. Since her ultimate goal was to be a writer, she was resentful of what she saw as unreasonable demands for conformity in thinking and writing. It seems then, that high achievers more willingly conformed to behavioural expectations, i.e., listening, being quiet, speaking only when asked, etc., than to task performance expectations. In other words, they appeared to resent teacher expectations which treated them as passive, compliant learners and which denied them independence in thinking and doing. They wanted freedom and responsibility in making their own decisions within the parameters established by their teachers, accepting these parameters as givens.

Though they saw themselves as essentially good students, they felt they were better learners than they were students. To them, being a student meant being quiet, attentive, non-disruptive, listening, doing everything the teacher assigned and studying all the time, i.e., the model student, whereas being a learner meant having the ability to understand what was being taught ...

> "I understand ideas quickly. My strengths tend to be fairly even. I often make dumb mistakes; I understand processes, concepts -- don't have a problem. Sometimes I study for half an hour and still get 85%. By and large, perception is quick memory is good -- yeah, I see I'm better than a lot."

Though almost all said they were quick learners, few felt they were equally capable in all subject areas. Some actually felt they had "levelled off" and could not learn as readily as they had in elementary school. As one "identified gifted" male said,

> "I used to catch onto things a lot faster but I'm not as fast now-- I'm faster in Science but I have to work at it a lot more now. I've read that rates of learning are faster when you're younger and then it levels off-- maybe that's what happened to me. Sometimes, I learn faster, it all depends on the communication between people, whether they can explain what they want us to do...".

Another said,

> "I'm finicky, don't have great difficulty although I'm finding it more difficult. I worry about losing brain cells. Things don't happen as easily as they used to-- maybe due to problems in grade 8..."

And another,

> "I think I'm going downhill --can't enunciate anymore, can't read science anymore ... Why? I'm not sure, can't think very well..."

This feeling that things were more difficult in junior and, senior high school was stated often, the implication being they had to work harder to understand concepts. They were more aware of their limitations and consequently, their frustrations ...

> " I see myself as a pretty average kid. I don't work particularly hard. I find it increasingly difficult to take in new things, like Math, longer to absorb more. I like to learn independently ...biology comes faster than historical patterns but it's a matter of preference. Maybe I'm just lazy but now there's too many demands."

> "I learn quickly, like to do work, feel good about school but I have a lot of trouble with abstractions. Different subjects peak at different times-- maybe because they interest me more. It's a frustration to be creative, to invent your own ideas...I lack imagination and it's difficult to think abstractly..."

> "As a learner, I pick up things quickly. I get the basic concepts, figure things out by myself pretty well in every subject area except English. It's not very logical at all --just an arbitrary thing people figured out. My strengths are in the Sciences -- Physics is my best subject. It's a real challenge and most interesting -- real exhilaration when you work on a project and it's right... "

In short, they appeared to be well aware of their capabilities but few took them for granted. They recognized their strengths and weaknesses, acknowledging they were not equally talented in all areas but feeling that generally, they were quick learners. Few felt they were brighter than other students, indicating that if other students worked as hard as they did, they would do just as well. There was an equation, then, between being a good student and being smart. They knew that if they exerted more effort, they would be better students and get higher grades but many felt they were too lazy to do so. Thus, they knew they could succeed at whatever they tried, suggesting that they felt positive about their abilities and had an internal locus of control. Probably most important was that they appeared to willingly conform to teacher expectations, at least to the degree necessary to obtain good grades. They wanted to be academically successful; they knew they had the ability to be successful and did whatever was necessary to ensure that success.

(b) LOW ACHIEVERS

Many of the same issues emerged with low achievers as with high achievers, the former generally feeling they were better learners than they were students. As one low achieving male said, "high learner, poor student". In fact, all of the low achievers said they learned quickly and easily and saw themselves as bright. There was a difference, however, between being bright and being a good student.

> "In grade 8 and 9, it was cool to be one of the crowd. If I had to do it all over again, I'd do more work and get better marks ... I consider myself quite teachable, usually learn quickly ... don't equate brightness with marks. I see myself as bright. It does sound fairly conceited but I really don't have to work hard to think well ...
>
> "... not important to get the highest marks. It's second rate to knowing the stuff. The knowledge is there but it's hard to write it down."

Thus, knowing and doing were two different things. High achievement required more effort, completed assignments, more study and playing the game. Half of the male low achievers indicated they did not do their work, did not study and exerted little or no effort. Only two, however, described themselves as lazy whereas females were more likely to say they were lazy. Females were also more likely to say they "could do better if they tried" but two students (1M/1F) said, "I don't want to do better. I could if I tried." Generally then, it was the females who felt their achievement was not as good as it could have been, attributing it to poor study habits and to procrastination. Males were more nonchalant and accepting of the status quo. Even though they were not pleased with their achievement, they were not willing nor did they wish to change. As far as they were concerned, their achievement was "okay" and they were just above average students...

> "I'm just above average. Can't say I'm alert. I'm usually asleep, quiet, don't cause too many hassles ... pretty good learner, I guess. I've been told I'm a fast learner ... guess I'm pretty lazy. Don't want to do better. I could if I tried..."

> "... middle of the road student, about average I guess... learn just like everybody else... just feel I should stay in the middle..."

This resignation with the status quo was not as evident with female low achievers as it was with males but they too, did not really care to improve. They knew they could if they tried. It was merely a matter of being interested enough to want to try and to subsume their other interests for school work. This they appeared unwilling to do as demonstrated by two low achieving, low SES females ...

> "I'm right in the crowd where I really don't care. I know I could pull off the work if I had to. I never learned how to study-- just

> rely on my memory. As far as my grades are concerned, I think they're lousy. I know I should be an honors student. The only class that interests me is English. I'm pretty happy with my marks in English. I just don't care about Math, Social or French ..."

> "I'm kind of lazy, I could do better if I got my act together. I'm trying to pick myself up. Last year was more frustrating than this year. I know I could be doing better ... I don't doubt my ability to improve ... I can't do anything I'm not interested in... used to think I was special but when I matured, I grew out of it."

Thus, low achievers knew their grades were not that good but having high grades was not that important to them. Their friends, their jobs or their other interests were more important ...

> "I have a lack of competitiveness. My parents are annoyed with that but I feel there are more things to life ..."

> "I'm pleasant, participate well in classes, always the instigator of getting kids involved (like a leader). I'm happy, not too disgruntled with my marks. I don't complain about low marks. I've always been an above average student...I'm well balanced.It's not important to get the highest marks ..."

It appeared then, that low achievers were not interested in being the highest achievers even though they knew they were capable -- "I understand the work, just don't put in the effort". It was not important to be the best. Therefore, because of their own value systems, they appeared to be unwilling to conform to play the game. They knew what was expected of the good student and knew also they could achieve better if they tried but two things essentially prevented them. Their study habits were poor and they were not motivated to improve. Like high achievers, they did not doubt their ability to be better students and earn higher grades, but they were unwilling to conform to the degree necessary to do so.

A. 2. PERSONAL GOALS AND ASPIRATIONS

(a) HIGH ACHIEVERS

Almost all high achievers had university ambitions with only 10 students (6M/4F or 26.3%) indicating uncertainty. Only three of the ten, however, were not sure whether they were going to university whereas the others were not sure in which faculty they should enrol. One of the uncertain males said he might like "to go on exchange to France, or maybe go to Jasper, ski race and work or maybe be a researcher because I like social studies." Another felt he would like to open up a restaurant because he wanted to be happy and because he liked people. His parents were urging a university education so he was not sure what he would be doing after high school. The only uncertain female said, "I'm not sure yet -- still figuring that one out ... but I do want to be extremely rich."

Consistent with the literature, high achievers had university ambitions with definite goals in mind while still in high school. As shown in Table 7.3, the largest proportion of students planned to go into the Sciences although more males than females were Science bound. Females, by and large, planned careers in Law, Business or Medicine but there were several planning to go into the more traditional female fields of Education and Home Economics.

TABLE 7.3

GOALS OF "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" HIGH AND LOW ACHIEVERS

A. "HIGH ACHIEVERS" (N = 38)

"UNIDENTIFIED GIFTED"	" IDENTIFIED GIFTED"
Math/Computers (1M)	Computer Science (1M)
Medicine (2M)	Medicine (2M/2F)
Physics/Math (1M)	Nuclear Physics (1M)
Sciences (2M)	Sciences (2M)
Engineering (1M)	Engineering (2M)
Law (2F)	Law (1M)
Library Science (1F)	Education (2F)
Commerce/Business (1M/1F)	Mathematician (1F)
	Home Economics (1F)
	Travel (1M)
UNCERTAIN (3M)	UNCERTAIN (3M/4F)

B. "LOW ACHIEVERS" (N = 21)

"UNIDENTIFIED GIFTED"	"IDENTIFIED GIFTED"
Military (1M)	Cartoonist/Draftsman (1M)
Engineering Design (1M)	Heavy Duty Mechanic or Bachelor of Music (1M)
Chef (1F)	Family Business (1M)
Music (1F)	Veterinarian (1F)
Computer Science (1M)	Computer Programmer (1F)
Veterinarian (1F)	
UNCERTAIN (1M/3F)	UNCERTAIN (3M/3F)

(2) LOW ACHIEVERS

Of the 21 low achievers in the interview sample, approximately half (4M/6F) were uncertain about their future and only 6 (4F/2M or 28.6%) had university ambitions, almost the reverse proportion of high achievers having university ambitions. (See Table 7.3) Of the females planning to go to university, two wanted to be veterinarians, one wanted to go into business and/or law, and the other into business or social sciences. One of the males wanted to be a Chartered Accountant or Politician whereas the other wanted to go into computer science. Even though these few low achievers had university ambitions, they were not as certain about their goals as high achievers were.

Of the other low achievers indicating career goals, there was a definite preference for semi-skilled and/or skilled occupations (i.e., chef, heavy duty mechanic, military, draftsman...) and not for professional and/or managerial occupations. In part, this occupational preference may have been derivative of their lower class origins since approximately 2/3 (5M/8F) of the low achievers had fathers employed in the trades and services and in part, derivative of their knowledge that their career options were limited because of their low academic achievement.

Typical of some of the low achievers' comments were the following ...

> "Not university -- university is not for me. I have friends who have dropped out or aren't getting jobs. They teach a lot of theory, nothing practical. I don't like the atmosphere, too many students, too big for me. I want a more personalized education, maybe get an RIA."

> "Not sure. I'm worried about what I'll do after high school".
>
> "Maybe go to Bible College, maybe to a community college to take architectural technology. I want to do hairdressing but some feel it's not as prestigious. But my boyfriend and parents feel I should do what I want to do -- I can always change my mind."

Thus, not only were low achievers less definite about their future goals than high achievers but they were also less oriented towards the professional and high SES occupations.

A.3. IMPORTANT PERSONAL VALUES

(a) HIGH ACHIEVERS

Analysis of the four most important things in the students' lives showed that high achievers placed the highest value on school, friends, family and personal development. Though the "self" was not mentioned by many, it was implicit in their comments with respect to personal development and in fact, several mentioned that since they were an integral part of each of the things they identified, they did not need to mention themselves as separate items.

They tended to see friends and school as equally important with personal development factors and family being mentioned less frequently than the first two (see Table 7.4). Personal development factors included such things as "getting along with my parents", "being accepted and having lots of friends", "not being made a fool", "getting to know myself" and "keeping my mind always active". This concern with personal success and development suggested that high achievers were more likely to be characterized by the instrumental personality attributes (Parsons and Bales,1955) and/or the competency cluster (Broverman et al, 1970) rather than the warm/expressive cluster of personality attributes. This more instrumental focus was evident in the following comments ...

> "To fit into society properly and be a likeable person, to do well in whatever I choose to do, to integrate social and academic values and to be happy. Education sets the tone for all of this and teaches you how to be members of society."

> " ... having a sense of accomplishment; knowing you've worked hard and done a thorough job on whatever you've done. Making money isn't that important to me although it's not the worst thing. Also, it's important that I enjoy my work and the people around me."

> " Success, stop being shy, travel, learn new things and set my own goals. Money's not important."

TABLE 7.4

MOST IMPORTANT VALUES OF HIGH ACHIEVERS AND LOW ACHIEVERS

	HIGH ACHIEVERS	LOW ACHIEVERS
1. PARENTS/FAMILY	16 (42.1%)	9 (39.1%)
2. FRIENDS	25 (65.8%)	13 (56.5%)
3. SCHOOL	24 (63.2%)	5 (21.7%)
4. PERSONAL DEVELOPMENT*	20 (52.6%)	5 (21.7%)
5. CHURCH/RELIGION	6 (15.8%)	2 (8.7%)
6. JOB/WORK	2 (5.3%)	4 (17.4%)
7. SPORTS	3 (7.9%)	2 (8.7%)
8. HAPPINESS	7 (18.6%)	3 (13.0%)
9. HEALTH	2 (5.3%)	2 (8.7%)
10. MONEY	4 (10.5%)	1 (4.3%)
11. REWARDING CAREER	4 (10.5%)	4 (17.4%)
12. HOBBIES/INTERESTS	3 (7.9%)	9 (39.1%)

(b) LOW ACHIEVERS

Low achievers, on the other hand, appeared to place the highest value on peer relationships, followed by interests (computers, music, sports, art ...) and family, suggesting a more expressive than instrumental orientation (Parsons and Bales, 1955; Broverman et al, 1970).

> "...Hockey, other sports, computers..that's all."
>
> "...Art, music, literature and fun -- a social life !"
>
> "...how I do in school -- don't have anyone to blame but yourself; Friends --a lot of satisfaction from them. They help keep you afloat. Family can be disappointing; Family ranks lower than school. I have a broken home; Hobbies - used to play the piano. It's kind of ironic I didn't put it first. I get the greatest satisfaction from it."
>
> "My own life, my future mental development -- learning and knowing a lot but not from school; Friends; Family -- they don't really come in here but put them in fourth ... School doesn't fit in here at all. School is school."

School seemed to be relatively unimportant since it was mentioned by only five low achievers (or 22.7%) and interestingly enough, all female. This compared to 24 high achievers (or 63.2%) mentioning school as one of the most important things in their lives, one of whom said...

> "... school dominates my life. I sacrifice everything for school. Then there's friendship, and getting the highest marks to get into university. I want to go into Medicine".

This contrasted sharply with the earlier comment made by a low SES, low achieving "identified gifted" female who said, "School doesn't fit in here at all. School is school". These two positions were clearly dichotomous. Thus, it appeared that for low achievers, school played a relatively minor role in their lives and that they attended classes more because of its compulsory nature than because of their desire and/or need to be there. In part, their devaluation of school may have been the result of valuing their jobs more, indicated by the fact that almost as many mentioned jobs (4 or 17.4%) as being important as mentioned school (5 or 21.7%). This differed significantly from high achievers in that twelve times as many (24 or 63.2%) mentioned school as mentioned jobs (2 or 5.3%). The difference between groups suggests several possibilities: (1) high achievers were less likely to hold jobs during the school year than were low achievers and (2) if high achievers held jobs, they valued them less than school.

What is particularly significant in the comparison of values, however, is that all high achievers were able to identify things of importance whereas two male low achievers (or 9.5%) said nothing was important. One said, "Nothing really important to me -- just working on my truck" and the other said, "Can't think of things that are really important". Another male felt that "getting out of grade 12 and getting a job was important." Nothing else was. All three were low SES "identified gifted" males who participated in elementary gifted programs but who lived and attended elementary and junior high schools in working class communities.

From these findings, it appears there were several important differences between low achievers and high achievers contributing to achievement differentials. The first difference was that low achievers valued and obtained the greatest satisfaction from their friends and outside interests whereas high achievers valued and obtained equal satisfaction from their friends and school. The second difference, related to the first, was the value placed on school itself. Because the majority of high achievers had definite plans to go to university, they saw school as a necessary stepping-stone to their future and therefore placed a greater value on school than low achievers who generally did not have such ambitions. High achievers were more likely to see school as a "means to an end" whereas low achievers were more likely to see school as an "end" in itself. This became increasingly evident through their respective comments in the next section with respect to their attitudes towards school and their teachers.

B. ATTITUDES TOWARDS SCHOOL

1. GENERAL ATTITUDES

(a) HIGH ACHIEVERS

As would be expected from the high value placed on school by high achievers, the majority indicated they enjoyed school although there were a few who were somewhat ambivalent (7/38 or 18.4%) and only one who was negative.

Comments ranged from "Not a problem - something you accept and appreciate" to "generally something you have to do". Females tended to be more positive and less critical than males although neither sex was without criticism. Females, however, were the ones who "really liked it" or "always loved it" whereas males were less expressive and found it "okay", "all right" or "not too dissatisfied the way it is." There were no apparent differences between "identified gifted" and "unidentified gifted" high achievers.

Essentially, high achievers saw school as a "given", something they had to have in order to succeed in the larger society. As one student said, "If I didn't need to go to university, then I wouldn't need to go to school" and another, "It's more or less necessary - it depends on what you want to do with your life." Thus, school was perceived as an essential and served primarily an instrumental function in the ultimate achievement of their goals. Its instrumentality was well expressed by a student who said he saw "school as a means of getting what I want - a law degree..." However, its instrumentality was not the only function students saw school fulfilling nor the only reason they valued school. They also saw school meeting important social, educational, psychological and recreational needs.

Since school fulfilled a variety of important needs, few found school boring although "boredom was definitely there". As one student said, "I don't think school is boring -- a few classes are", and another said, "It's pretty much of a generalization. If they do, it's because the pace is slow but it is necessary to keep the class together." Generally, boredom was subject and/or teacher specific and was a "sometimes" state, present in "varying degrees and at varying times". As several indicated, boredom was a fact of life since there were times when everyone was bored and they doubted the workplace was any different. They appeared to have accepted a degree of boredom as a non-negotiable element of institutional life and did not let it affect their overall attitude towards school.

In summary, high achievers appeared to have positive attitudes towards school and to see school as an essential part of everyone's life. Though the degree of positiveness varied, they valued school because they perceived it as a "means to an end". Almost all were university bound and consequently, were willing to meet whatever demands were made despite the fact that some aspects of school were boring. None generalized boredom to school but instead identified a number of features which contributed to boredom, i.e., dull teachers, irrelevant curriculum, routine and lack of variation, redundant work, lack of interest, ability and/or motivation to do the work. It was these same features which gave rise to numerous suggestions for change since all but three felt there could be definite improvements in the educational system (see Appendix 7).

(b) LOW ACHIEVERS

Compared to high achievers, low achievers tended to be more ambivalent about school and used fewer positive terms to describe it. For them, school "was generally okay" but few indicated it was enjoyable and none said they "loved it". Females tended to be more positive than males although only half indicated they were "pro school" and found it worthwhile. Almost all females indicated they had part-time jobs and preferred them to school because they gave them more freedom and responsibility as well as greater rewards for "doing something with (their) time." Low achievers appeared to be more resigned than high achievers to the inevitability of schooling, their attendance motivated more by its compulsory nature than by their choice.

Compared to high achievers who saw school fulfilling a number of important needs, low achievers identified only two. One was social, i.e., meeting people and being with their friends, and the second was instrumental, i.e., needing school to get a job, to go to college or university. Since few were planning to go to university, they appeared to have passively accepted the need for school ... "I'd never quit school. An education is needed" ... but the enthusiasm was missing.

This became apparent through their comments about school and some of the elements that made it boring. Males, in particular, were more likely to generalize boredom to school than were females ...

> " Yes, it's boring. Classes are all the same, drab and in a row;the walls are ugly, awful

> to look at; teachers have no charisma -- they drone on and on, also the way the material is presented; lunch hours are boring..."

Several other low achieving males who indicated they were on the school football team said, "Boredom depended on the weather -- would want to be anywhere else but class especially during spring and fall". Like the high achievers, the majority of low achievers felt boredom was definitely present in the classroom but it was a "sometimes" state and was a function of their interest in the class and the way in which the course material was presented...

> "Not really, sometimes it is. It's what you make of it."
>
> "Only thing that might be is the subjects you have to take like Chemistry. I couldn't care less about protons... just personal likes and dislikes. Not a lot a teacher can do with a subject that doesn't interest me."

They identified the same factors contributing to boredom as high achievers -- teachers, "dry subjects like English", "too much detail", irrelevant subject matter, repetition, routine and lack of interest -- but differed from them in that more admitted to being bored in school. For both groups, however, the extent of boredom was dependent upon the teacher, their interest in the subject and its perceived relevance to their future goals.

In summary, low achievers tended to be somewhat more ambivalent about school than high achievers although this ambivalence seemed related to future goals and aspirations. Low achievers, by and large, were not planning careers in fields requiring university training and therefore, did not perceive school as positively as high achievers. They saw many courses as irrelevant, particularly low achieving females who objected to some of the Math and/or Science courses they were taking. Some expressed a general dissatisfaction with the system itself, indicating they wanted to see changes made but were unsure how, or if, major changes could be made. One felt it was too rigidly stratified --"It's for a person who wants to become a lawyer. Either you like it and stay or don't and drop it" -- whereas another felt it demanded too much conformity and "thought control". Neither felt they fit in as the school was presently organized but they were unsure of what could be done to change it.

B. 2. ATTITUDES TOWARDS TEACHERS

It is apparent from the previous discussion that teachers definitely made a difference and that effective teachers could make classes interesting and motivating even if the content was not particularly exciting. There were some students, however, who felt that it was their interest in the subject and its perceived relevance that made the difference and that there was "not much a teacher could do with dull subject matter". Because teachers and the quality of instruction were most frequently mentioned in the students' responses to the interview questions regarding school, changes and boredom, they emerged as the most significant feature of school life. Thus, the social climate of the classroom, established and mediated by the teacher, was a critical factor in the students' perception of school and their achievement.

There were no apparent differences between high achievers and low achievers in the way in which they saw the ideal teacher, both responding equally well and both identifying essentially the same type of characteristics they felt should characterize the ideal teacher. It is obvious from their comments that they had all encountered numerous teachers who lacked these characteristics and who contributed to boring and dull classes. Taken together, their responses merged into a composite of the ideal teacher, the specific characteristics of whom are found in Appendix 7.

In describing the ideal teacher, students placed little importance on either the age or gender of the teacher. Only one student stated a preference for male teachers, himself a male. He felt that male teachers had better control, were better organized and were generally better teachers. As he said,

> "He's got -- I like men teachers -- he's got to push you, make you do homework. If it's there, it's good ... I really like men teachers. Seems classes are better run, better discipline, don't waste time. In junior high, I had only a few good teachers. All were male. Grades 1 - 3 had a female teacher, grade 4, a male teacher -- never did outstanding work in elementary. Junior high was badly run, poor administration, discipline problems... you keep your mind on your work with a man teacher."

The other students spoke in generalized terms, making reference to both male and female teachers whom they felt exemplified some of the characteristics of the ideal teacher. With respect to age, two students indicated that the ideal teacher should be young because "old teachers were no fun. Some were senile and can't understand anything". The other student indicated that the "ideal teacher" kept young and did not get old. For him, it was the quality of youth which was important. All others saw this as either unimportant or as implicit in their comments about the teacher's involvement with the students and the teacher's personal intellectual growth.

What is particularly significant is that they recognized and commented upon the need for different teaching approaches in the different subject areas. They appeared to accept these as "givens" acknowledging that the nature of the subject matter dictated a certain methodology as well as a different orientation and level of involvement from the student body. Thus, despite the fact that many expressed a preference for a particular teaching style, they were willing to accommodate themselves to the situational demands of the classroom provided the framework was sufficiently flexible.

In general, they were not overly critical of teachers although they expressed concern that there were too many who did not care and whom they felt should be "weeded out". For the most part, there appeared to be an overall satisfaction with the quality of teaching they had experienced over the years; however, the frequent mention of incompetent teachers and the desire to see a "higher filtering of teachers" indicated a high level of concern that "quality teaching" was not standard.

They placed primary importance on the affective characteristics of teachers as opposed to the purely cognitive ones. Though being smart was important to them, it was secondary to the way in which teachers treated students and the way in which they presented the content. What they perceived was a rigidity in the way in which many classrooms were managed and an inflexibility in accommodating to the different needs and abilities of students. Thus for them, interpersonal and communication skills assumed primacy over cognitive skills and the ideal teacher was one who could provide a flexible, stimulating environment in which individual needs were recognized and accommodated.

B. 3. ATTITUDES TOWARDS ABILITY GROUPING

(a) HIGH ACHIEVERS

The majority of high achievers, whether "identified gifted" or "unidentified gifted" students, indicated a preference for some form of ability grouping although they differed with respect to the grade level such grouping should occur. Some felt that if full-time gifted programming were offered, it should be offered only at the elementary and junior high school level whereas others felt it should be offered only at the high school level.

Slightly less than 15% (or 5 students --4IG/1UG) indicated that if the option had been made available, they would not have wanted to participate. Another 25% (or 9 students -- 4IG/5UG) were not sure whether or not they would have wanted to participate whereas the remainder felt they would have. Thus, the majority of high achievers would have preferred some type of ability grouping during their schooling with both "identified gifted" and "unidentified gifted" students appearing to be equally supportive although rather interestingly, there were more males than females (11M/3F) who were unsupportive and/or uncertain.

The major reason given for wanting to participate in ability groupings and/or full-time gifted programs was the challenge and pace they felt such programming would provide. Since many were already participating in International Baccalaureate (IB) programs or enrolled in enriched core programs at the high school level, their desire and perceived need for more challenging programs was indicative of their support for such programs. Typical of their comments were the following:

> "Segregated class would be better. It allows everyone to progress at their own rate."
>
> "Really would have wanted some special program. People don't care if you're a brain or an egghead. High achievers will do well no matter what school they're in... important to do your best and not what other people think. I would've been interested in more challenging differentiated core at all levels."
>
> "I would've gone into full-time programs but I don't know if I would've done well.

> Everyone sees those who go into it as wierd eggheads. I wouldn't worry about it. Some kids who are average wouldn't like it. I would have gone for a special school -- helps you more towards university. You have to be really motivated ..."

For those high achievers not supportive of ability grouping, the following reasons were given:

(1) Need for social relationships with people of varying abilities

> "...hard to say whether I would want full-time programming. I wouldn't like it-- a group of eggheads who go home and study for 10 hours. Social problems are the biggest problem. Gifted program at elementary was a good program but at junior and senior high, there are more problems -- you'd be forming a new clique between gifted and non-gifted. There has to be some mixing of both groups. We knew we were better, don't know if we acted better..."

> "I don't know. I think in the end it might hurt if you don't come into contact with all others but then, which is more important? getting just the right indepth curriculum or learning to accept other people and get along with others? You need to come into contact and accept people for what they are and not what they should be..."

(2) Disapproval of segregation

> "I wouldn't have wanted to be singled out. I felt teachers provided enough challenge."

> "It tends to separate you which is detrimental to social growth. The gifted program was interesting but it set you apart -- would've preferred to stay in my own class. There's another side to school. I found junior high enjoyable -- getting involved in other things. Perhaps it should be a time when you're not concentrating on academics...time when you're not so competitive -- a little lacking in challenge but looking back, I see how much I should be enjoying it..

(3) Feelings of adequacy/inadequacy

> "I didn't like the gifted program ... segregated full-time programming in junior high? No, I don't think I could handle it. I would drop to the bottom. From the egotistical viewpoint, I couldn't take it."
>
> "Streaming? No. The other kids with lesser ability push you, need them to push you and make you feel good. You feel you might slow down the class if in full-time segregated class -- no segregation."

(4) Competing interests

> "It would have been a tough choice -- gives you a jump on other people. Full-time programming at junior high is a good idea but I personally don't know if I would've taken it -- playing football, sports, spending time with my friends ... don't know if it would be worth it... I'm sure there are some parents who want their kids to take it. If you took it, you could come up a lot worse. No, not really, because of my friends."

Generally then, approximately 2/3 of high achievers felt they would have wanted to participate in full-time gifted programs had they been offered because of the faster pace and challenge they would have provided. Most felt the challenge was lacking in regular programs and that "things moved too slowly" with "others holding them back." Because they were high achievers, they appeared to enjoy learning, wanting a faster paced, more demanding program. The fact that half of them were taking either the full IB program or some of the International Baccalaureate classes was proof of their desire for challenge. They appeared relatively unconcerned with the higher demands and pressures these programs would engender and only five (or 13.2%) felt they might not be able to meet the challenge. The majority, therefore, wanted the challenge of a faster paced academic program and were confident of their abililty to handle it.

> "... in some ways, I think it would be better if things moved faster. Then I would be motivated to do something, maybe get more out of it... yeh, it would've been a lot easier..."

(b) LOW ACHIEVERS

Low achievers tended to be less supportive of ability groupings and/or full-time gifted programs with approximately a third (3F/4F) saying they definitely would not have wanted to participate in such programming for much the same reasons as given by high achievers. Low achieving males tended to focus on "too much work, too many expectations" as the primary reason for non-support while low achieving females tended to focus on the need to be with their friends and the competitive nature of such programming...

> "No full - time program for quick learners. Not all geniuses associate with other geniuses. Need to interact with others... scary to take people out of groups. Doesn't teach people how to function socially. I'd hate to be in a class where all people had no trouble learning-- the competition gets tougher ... feel they have to be on top of the genius heap. Then, this also puts the underachiever in a bad spot ... it's like a strict class system. I've never been one for competition. I'd rather help others and lose time in my own studies... wouldn't want it to be any tougher, don't ever want to see so much effort that you are constantly forced to work ahead ..."

> "... I wouldn't like to be in a class like that. I'm kind of lazy. I'd have more to do. I'd like to have a social life -- would like to meet other kinds of people..."

The other low achievers were divided between "Yes, would like a full-time program" to "I don't know" although of those who were uncertain, eight (or 36.4%) felt there would be too much work and too many expectations and they were not sure whether or not they wanted that for themselves. The remaining 1/3 (31.8%) indicated they would have preferred some form of ability grouping, particularly in the elementary and junior high school grades since those were the grades they found the work unchallenging and the pace too slow.

> "For some subjects, full-time programming would be okay. I don't think I'd want to be grouped -- I don't think I'd like it --to be constantly motivated, challenged... if you don't do well, then a lot of pressure to be better..."
>
> " ... would have helped a lot. Don't know if I could have kept up with the standards but would've tried. I try to live up to expectations if they're sincere ... would've found it more challenging."
>
> "Yes, would prefer to be in segregated class if they did it right -- don't tell anybody, don't advertise it, just do it... segregated junior high preferable."

In summary, low achievers tended to be less supportive and more uncertain than high achievers about participation in gifted programs. Those who were supportive wanted them because of the challenge and the faster pace they felt these programs would provide whereas those who were not supportive, even though they would have have liked the challenge and pace, rejected them because of extra pressures, work load and time they would take away from their other activities.

> "I'm just interested in getting marks for

> University ... yeah, I'll suffer the lack of challenge for better marks. I find the classes boring but there are other things to do. I thought some of the IB classes were great but the expectations were greater so I dropped them..."
>
> " I had taken some IB courses but dropped out because of marks. Sounds silly because I learned so much -- so frustrating! Why work so hard? I want to enjoy life too. All my other courses were dropping... I don't mind pressure but I was feeling stupid. After you get into IB, it's not just brains anymore. You're shocked into working. People who stay realize the commitment and I think that's good ..."

Many also, particularly female low achievers, rejected the competitiveness that was an integral part of such programs, feeling they would not want "to be challenged constantly, to be pressured to be better". Still others felt these programs would be too elitist and they personally would not want to be separated from their friends.

It seems then that the majority of high achievers and low achievers found the curriculum and the pace with which it was presented somewhat lacking; however, they disagreed upon the need for ability groupings. High achievers were more likely to favour segregated classes than low achievers with the latter deliberating more about the pros and cons of such programs. Their analysis of the situation suggests they engaged in a process of contingent valuation and were willing to forego challenge and a faster paced curriculum in order to be with their friends and/or to have more time for their interests and/or jobs.

C. SUMMARY

High achievers and low achievers were alike in many ways although the major difference appeared to be the high achievers' greater willingness to conform to adult demands and expectations. Since almost all of the high achievers had university ambitions, school played a critical and essential role in the realization of their goals and was seen as an important "means to an end". School also met a number of their other needs -- social, educational, recreational and psychological -- and therefore, appeared to yield great satisfaction and enjoyment. Given the value placed on school, their attitudes towards their teachers and their studies were positive although they were not without criticism of some of the more negative aspects of schooling. In general though, they placed a high value on school and their personal accomplishments, and directed their efforts towards realizing their goals and ensuring academic success.

Low achievers differed from high achievers primarily in the value placed on school and the role they saw it playing in their future. Some perceived it as essentially irrelevant to their future goals whereas others valued school but equally valued their other pastimes, i.e., their job, friends, social life and hobbies. Thus, they appeared to have more conflicting priorities than high achievers, believing that it was important to "balance things in your life" and that it was "not important to get the highest marks." Few appeared to have negative self-concepts, knowing they were bright and could achieve higher grades if they studied harder but most appeared unwilling to change or to expend the extra effort to be good students. In other words, they appeared less willing to please their teachers and/or parents than high achievers, treasuring their independence and/or uniqueness more and finding it harder to conform to expectations. Their low achievement did not appear to stem from a lack of ability to do their work since they certainly felt capable enough, but from a lack of necessary work habits and commitment to do better. As one "unidentified gifted" male said in explaining his poor achievement, "Jobs, sports and other things are a poor excuse. There's always ample time to do your work if you wanted to..." Perhaps the following student summed it up best when she said, "It's not ability, it's all attitude." If this was the case, then the difference between success and failure lay in the student's desire and commitment to be academically successful, a commitment which derived from their particular value and belief system and their future goals and ambitions.

The range of attitudes characterizing low achievers and high achievers was made apparent through the analysis of individual belief systems as was the degree to which they consciously negotiated their level of achievement. Their high ability appeared to be an important factor in this negotiation since they appeared to be very aware of the interactional dynamics within the classroom and therefore, more conscious of their choice to conform, or not conform, as the case may be. This became increasingly evident through the more indepth analysis as provided in the following nine case studies.

SECTION III

CASE STUDIES

In this section, nine case studies (6 male/3 female) are presented in order to demonstrate the way in which students operate from a unified system of beliefs and attitudes about themselves and their abilities as well as to show how they consciously negotiate the extent to which they are willing to play the student role. Though other students could have been selected for inclusion in this section, these particular nine students were the best examples of individuals appearing to negotiate their academic success and/or failure, investing only as much time and effort as they felt necessary to meet their goals. Perhaps what distinquished these students most was their ability to see beyond the commonplace and to see school as a social organization within which they were expected to play a specific role. They were not passive nor compliant individuals, but were instead active mediators who intended their actions and who behaved in ways consistent with their perceived meanings. Ultimately, they were the ones who legitimized and reinforced the school's categorizations by behaving in expected ways and they, like Paul Willis's (1978) lower class youth, cooperated with the school in rigidifying acquired labels and accompanying self-identities as either "winners" or "losers".

The first three cases are low SES "identified gifted" males who consistently scored below 70% in junior and senior high school and who, according to Whitmore's

(1980:168) typology, could be considered chronic underachievers in that the duration and scope of their underachievement was longstanding. Although all three demonstrated many of the characteristics common to underachievers, the third case was the most hostile "turned off" student in the interview sample and could be classified as the "Rebel" using Drew's typology of bright adolescents (see Chapter 2). He clearly saw high school as a place for students who "were going to be lawyers and doctors" and not for students like him. As far as he was concerned, the best part of the school day was when the day ended. He appeared to have resigned himself to bide his time, indicating he hated school. For him, school was a prison and the classroom was "... close to resembling a cage from which there (was) no escape" (Jackson, 1968).

The fourth case is a low SES "identified gifted" female who demonstrated fewer of the characteristics common to underachievers and who was, in fact, very positive about herself and her abilities. What is particularly marked in her case was the dissonance between her values and those of the school. She had chosen not to achieve because she perceived the school as irrelevant to her future goals and interests. Her preference was for the work world and not for school primarily because "you get paid for working". The rewards from school were obviously not as meaningful to her as those from her job and newly established peer relationships.

The fifth case, another low SES "unidentified gifted" female, was very similar to the fourth case but appeared to be more the typical "Social Leader", one who consciously chose to do average work because it was important to "balance things in your life." Her friends, social life and extra-curricular activities were an integral part of her life and she was unwilling to sacrifice any of them for the extra time she knew she needed to study in order to raise her marks. It was not important to be the best; all she wanted was high enough marks to be admitted to university.

The sixth case is a high SES "identified gifted" male who could be categorized as the "Creative Intellectual", one who was very positive and confident about his own abilities but one who differed from the school in philosophy and approach to knowledge and pedagogy. He was highly critical of the school system, arguing it was outdated and static and because of that, he was unwilling to compromise and "play by the rules of the game".

The seventh case is another high SES "identified gifted" male but one who presented a study of internal conflict, one struggling within himself to satisfy his need for peer acceptance and his need for academic excellence. He knowingly succumbed to peer pressure to be "like the other guys" but was unhappy with his decision and unsure of how he could change things. He felt thwarted by the set of expectations and the label which he had acquired but he had not yet developed the appropriate coping strategies to change either his behaviour or his "label".

The eighth case, a middle class "identified gifted" female, and the ninth case, a high SES "unidentified gifted" male, are studies in contrast. Both were extremely high achievers who loved school, were positive, exuded confidence and an enthusiasm for learning. Their GPA's were consistently in the Honors range and both had university ambitions with careers planned in the Sciences.

CASE STUDIES

CASE #1 - IDENTIFIED GIFTED MALE; RESIDENTIAL SES #4
FATHER'S OCCUPATION: OWNER OF SMALL SERVICE SHOP

IQ SCORES : GRADE 3 - V 138/NV 128
GRADE 6 - V 137/NV 115
GRADE 9 - V 116/Q 122/ NV 115

G.P.A.: GRADE 7 - 63% GRADE 8 - 54.8%
GRADE 9 - 57.3% GRADE 10 - 67.6%
GRADE 11 - 66%

Case #1 lived in a lower middle class neighbourhood and attended small elementary and junior high community schools. As noted, he was a low achiever especially in junior high school although his achievement was somewhat higher in high school. His elementary IQ scores were definitely in the gifted range but his grade 9 IQ scores were considerably lower, having declined into the average/high average range. He attended the Gifted Program for one year only, the reason being ...

> "In elementary there was no challenge. I just sat around. The gifted program provided enough challenge but no, I don't know if I'd want to do it again. It goes back to my

> friends. I liked it better in my regular class. It was a shock to be thrown into the gifted class. You go from being the best in the class to the dummy of the class. The other kids knew more than I did, could do things so much better. I really felt like a dummy. There was too much competition. I preferrred it more in my regular class where I was at the top. I didn't ever have to work hard, it just came easy to me..."

Even though he found the regular program lacking in challenge, he disliked the competitive nature of the Gifted Program and the high demands for achievement. He also disliked the fact that he was separated from his friends and more importantly, that he was no longer at the top of the "ability hierarchy". His social position vis à vis the other students had changed. To maintain the image he had developed of himself in the earlier years [illegible] school, he withdrew from the program and remained in the regular classroom program. Though it was not as challenging, it was familiar and it provided the support he needed for ego-enhancement. His withdrawal from the program and his explanation thereof suggested that he had a low need for achievement and that communality and peer relationships were more important to him than were individualistic, competitive strivings.

Because the elementary school was relatively easy and not very challenging, he developed the attitude he could do well with little or no effort. When expectations increased in junior high, he was unprepared to cope with these demands and began to believe he was not as capable. As he explained,

> " Junior high was okay, I guess... actually it was me. I went downhill in junior high, couldn't perform like I used to. I really enjoyed elementary school and I was good in elementary. There sure was a big change from elementary to junior high. They started treating you like you really have to behave. I liked to move around in elementary and I couldn't anymore in junior high.
>
> ... Elementary was too easy but in junior high, all of a sudden, it caught up with me. It was tough... next year, I know will be harder than this year..."

Despite the elementary schools' label of gifted, he saw himself as an average learner, a perception reinforced by his poor junior high school performance ...

> "... average, maybe above. It all sinks in, usually get it. There are a few things I'm not very good at. I like Math, but don't really like English ... no good teachers. I'm not a good writer. Some things I learn quickly and easily, like Video games. I used to spend a lot of time playing them.
>
> Grade 8 was my worst year. I just about failed... had some friends who weren't the nicest people... made it a big joke ... pulling pranks, came up with ideas but I was too chicken to play along. My friends now are similar to me. The others never were really like me. My father owns a business and the other guys were really low, I guess kind of jealous. I'm not friends with them anymore. I mean, they were really lower than I..."

However, he did see himself as a better learner than a student, indicating that he had not developed the necessary study skills to be a good student nor the desire to be one. As he said, he was a student who ...

> "has ability but too lazy to use it. I don't

> study or do homework but I'm doing okay now. I could just sit back and still get good marks. Sometimes I don't study and I still get good marks ... like I got a 76 in Math. I'm talkative in class, don't listen and never do homework. Some of my friends do it. I never found a use for it. I like going unprepared and doing well although I think I could do better. I don't do much reading now, never did ... watch TV a lot."

It appeared that he essentially devalued education and rejected what he perceived to be the "student role". It also appeared that his friends similarly devalued education, preferring activities which were non-academic in nature. He was not totally dissatisfied with school because he could "fool around with the guys in class" but he was dissatisfied with the quality of teaching. He felt there were too many teachers who were there "just to collect their paycheque" and who failed to motivate and/or interest him in learning. Classes were rather boring, especially ...

> "if one is going to sit up front and lecture all day or if you have to sit down and work all day, then it's boring. You need lectures but they should give you time to work and to talk, in discussions or off the topic... junior high was the most boring...one teacher just gave crossword puzzles and you didn't learn anything...should be a higher filtering of teachers."

Thus, as far as he was concerned, teachers really did "make a difference". He would have preferred ones who involved students in the learning process, who explained concepts in such a way they "made things easy", who knew their subject matter and who did not "treat us like little kids and gave us a little more freedom". In one way then, he was blaming teachers for his poor achievement since it was they who failed to motivate and stimulate him but in another way, he was blaming himself because he was "too lazy" to use his ability. Thus, in attributing his lack of success to external sources, he was protecting his self-image by rationalizing his failure to his "not trying" rather than to his inability to succeed. He knew he was not meeting his parents' or his teachers' expectations but he personally felt "pretty happy" with his grades -- " if I can keep up ... "

Generally then, school held little interest or value for him particularly since he felt he did not need it to achieve his future goals. He planned to take over the family business and felt it was unnecessary to have university training although he said he was "now beginning to value education" because ... " I like money. I'm greedy ... want to make big bucks. That's why education is so important." The most important things in his life, however, were "keeping in touch with the family" and being "the guy that runs the show".

In summary, Case #1 was well aware of his abilities but he was neither interested nor motivated to achieve better. He knew that if he studied, he could do better but because he planned to take over the family business, he saw schooling as essentially unnecessary and irrelevant. Being part of a lower class social milieu, the "middle class view of success and achievement" appeared to be irrelevant to his existential reality and was thus rejected.

CASE #2 - IDENTIFIED GIFTED MALE; RESIDENTIAL SES #4
FATHER'S OCCUPATION: WELDER

IQ SCORES: GRADE 3 - V 139/NV 129
GRADE 6 - V 118/NV 132
GRADE 9 - V 131/Q 131/ NV 125

GPA: GRADE 7 - 68.5% GRADE 8 - 57.5%
GRADE 9 - 52.8% GRADE 10 -51.5%
GRADE 11 - 42.5%

Whereas CASE #1 was ambivalent about school and found it "generally okay", CASE #2 was negative. He said, "I don't like it." When asked why, he said,

> "I don't like the system itself... not sure exactly. I know I want to change it but I can't think of what. I don't like the system -- not sure how one can improve it ... I don't know why I'm having trouble with this question..."

He did like Art, English and Psychology because he liked to draw and to read. Psychology was particularly interesting because it "helps you figure out your role in society, explains problems with people and how the mind works." Physical Education, on the other hand, was "a waste of time... just don't like it or any sports. It's taught in ways I don't like." Biology was "interesting but not a thrill".

He identified several features of school life to which he objected -- the first was the tracking of students into different educational programs, and the second was the role of sports. He felt that both served the function of stratifying the student population with the "brains" and the "jocks" being those most highly valued in the school society. He had a keen sense of social exclusion, feeling it in his classes, particularly in English, and in his peer relationships. As he explained,

> "The divisions in classes are not very good ... a mixture of people there... some there for credits, others for interest, some with the wrong attitudes ... my English class is full of IB (International Bacculareate) students, most are pretentious. I'm the only one who isn't IB ... their attitude is different. They love the school system and how it works ... already a conflict there. I'm not doing well in English but I do find it interesting. I like to read, learn how to get things out of literature..."

And concerning the role of sports ...

> "Football has the top priority. Most players are idiots, bigots... funny, I don't think it should be as high up as it is ... What should be? I'd opt for Art... nothing should be higher, sports should be lower.

From these statements, it was obvious he was not athletic and did not participate in school sports. According to him, "jocks and brains ran the school" and because he saw himself as neither, he did not "fit in". His high school, like Coleman's (1960) and Tannenbaum's (1962) Adolescent Society, valued males who were both athletic and bright. It did not value non-athletic, non-achieving bright males.

His awareness of the social distinctions was also apparent in the following comment ....

> "enjoyed elementary, did best then and up to half of grade 8. Learning itself was fun. More things were interesting. I liked physical education then. There wasn't much emphasis on physical prowess. There were more kids, weren't that different.I didn't

> really differ... junior high was usually fun, a lot freer. Everybody went to the same classes. They didn't specialize like in senior high, not much put onto you into separate categories... In senior high, a lot of sub-cultures and counter-cultures bloom.It's more cliquish and you notice differences between people more. Some are complete opposites. They have different values...some see themselves as higher up -- sports, good marks. Can't say I blame them for doing so good in school although I can't..."

His awareness of the different social groupings was in part a function of his having attended small lower SES elementary and junior high schools where other students were similar in values and attitudes and where the competition was not as tough. In high school, there was a broader social base, a larger student population and more stratification, making the differences between lower and upper class students more apparent to him. This awareness and concern with class distinctions seemed to permeate his thoughts because it came through again when he was talking about curriculum at the different levels. In elementary, he saw the curriculum as "learning basic skills" ; in junior high, as "finding out about different subjects and in high school, as "assimilation into society and finding yourself..." Here was a student who had an awareness of the cooling - out process and albeit unstated, a feeling that he could not break through the barrier even though he wanted to do so. Ability alone was not sufficient. It had to be accompanied by the right attitudes, interests and work habits -- none of which he felt he had.

Despite his opposition to specialized classes at the high school level, he had participated in gifted programs in elementary school. He indicated ...

> "I really enjoyed it. We did puzzles, classical music, art and many more things. I liked being separated but I'm not sure if I would've liked it 5 days a week... too much work and expectations. I had some flak about participating in elementary gifted programs but it didn't work out that bad. I would've liked it at junior high, maybe an afternoon a week ... full time? not sure how I would like it. Hard to imagine."

His school work started to drop in junior high around the time his parents divorced, indicating he felt that both his parents and teachers had given up on him.

> "... I really started to do poorly in school. Teachers kept on bugging me to do better at junior high, saying I could do it. They kept on saying I wasn't trying and then they gave up on me..."

It seemed that his junior high years set in motion a self fulfilling prophecy whereby he saw himself as a "failure" with his subsequent interactions with teachers and peers appearing to reinforce this self-perception. Then in high school, the organizational structure with its distinctive class divisions of which he was most aware reinforced his feeling of being different and of being a "loser"...

> "not a particularly good student, not particularly inclined but I don't skip much. I'm not much trouble - most teachers like me. I'm quiet, don't say much in class. I don't have an opinion to express. My presence bothers the people there, in English I mean ... don't feel it's worth it...don't like to be pretentious, don't see why people should think they're better or smarter. Maybe teachers taught them they're better. It makes others feel uncomfortable.

> They're so basically shallow... I have trouble handing assignments in. I pick up things quickly but I have trouble putting things down on paper."

Consistent with his feelings of rejection and alienation, he expressed no established goals ...

> "No idea... no long term plans. I'll be disappointed if I don't achieve my plans by 30 ... maybe I'd hang myself. I'd take Fine Arts if I go to university. I don't really worry about the future...it's not predetermined. I feel I can always change things if I want to...being rich, famous, and status is not the only thing...looking for a lucky break."

Case #2 presented a profile of a very dissatisfied and despondent individual who saw himself as being on the periphery of school life. This marginality appeared to stem from his awareness of a social distinction, knowing he did not fit in but yet wanting very desperately to belong. He sensed an impenetrable barrier, one which he could not overcome. He was most introspective trying to figure out where and how he fit into the school society, appearing to be going through an "identity crisis". His departing comment was most telling and was an attempt to counter the label of loser he felt he had acquired ... "I'm actually quite responsible. I work at (....) 2 or 3 hours a night, sometimes 3 or 4 nights a week."

In summary, Case #2 felt social/peer pressure very intensely, feeling there was a great difference between himself and others. Whether this feeling derived from social class or achievement status factors -- or a combination of both -- was unknown; however, he knew he did not fit in. He was neither a brain nor a jock who "loved school and how it worked". Thus, he was not very motivated to achieve and though he knew he needed school to get ahead, he did not like the way it was organized, feeling it alienated and rejected him.

CASE #3 - IDENTIFIED GIFTED MALE; RESIDENTIAL SES #4
FATHER'S OCCUPATION:UNKNOWN

IQ SCORES - GRADE 6 - V 103/NV 118
GRADE 9 - V 101/Q 101/NV 101

GPA - GRADE 7- 71.5% GRADE 8 - 66.8%
GRADE 9- 58.8% GRADE 10 - 45.7%
GRADE 11- 40.0%

Probably the most negative student interviewed was CASE #3. He was the only one who indicated he hated school and found it very boring, stating very clearly there was a difference between hate and dislike. He claimed it was for people who enjoyed it and who wanted to become lawyers and doctors and not for people like him...

> "It's for a person who wants to become a lawyer. Either you like it and stay, or don't and drop it. You can't have shorter classes, you can't get rid of school -- too many uneducated people in the world."

Elementary school, however, was more enjoyable than junior and senior high ...

> "No worries in life, could concentrate then. More responsibilities and worries in junior and senior high -- now, can't concentrate, always worrying about something. Courses are a drag... I just wait for the day to end. Don't find it interesting - it's not fun anymore ... no place to go in spares. Just stuck here with nothing to do..."

Very clearly then, Case #3 had internalized failure and had resigned himself to the fact he was not going to be a doctor or a lawyer and therefore, school was irrelevant to him. He claimed disinterest in school ("don't have my priorities straight") and a lack of motivation. He found compulsory courses alienating and saw himself as a "person who comes to school because there's nothing to do". Basically, he saw himself as a person locked into a system which did not meet his needs and which denied him any sense of control over his own schooling. It taught him well through its cooling out processes that there were "winners" and "losers" in the school system and that he was one of the "losers".

His feelings of alienation extended also to his peer relationships. According to him, the "other kids were a bunch of jerks", suggesting he was not an active member of the school society but was rather an onlooker. His negativism seemed to pervade his general attitude, claiming there was "nothing really important to me ... just doing things" like playing the guitar (which he taught himself) and working on his truck. His future goals were related, claiming that what he really wanted to do was be a "heavy duty mechanic or maybe get a Bachelor of Music".

In examining his achievement and IQ scores, it is readily apparent that he was not a high achiever nor was he "gifted", if his grade 6 and 9 IQ scores were any indication. Since his primary grade IQ scores were not available, it is unknown whether his IQ scores dropped because of adverse environmental factors, a lack of motivation in writing the IQ tests or whether they had never been in the gifted range. If that had been the case, his placement in the Gifted Program by his school may have set in motion expectations for gifted achievement, expectations which he may not have had the ability to meet. This could have served to frustrate and negate his self-concept, giving rise to feelings of inadequacy and hostility. Yet acording to his elementary school teacher who had nominated him to the program, he had been an excellent student -- highly motivated, independent and enthusiastic. In her words, he used ...

> "a very skillful and organized approach to his work. His assignments are completed in a meticulous manner...demonstrates an excellent understanding of Language Arts ability.... has a superior creative writing ability...excellent effort and achievement in all subjects; adapts easily and quickly with self confidence to any situation or assignment. He shows excellent initiative and independence when working on classroom activities. He demonstrates many leadership qualities and becomes very involved in his work..."

This description was in direct contrast with the one he presented of himself in the interview. Instead of being the highly motivated, high achieving student he had been in the elementary grades, he was the dissatisfied, hostile and alienated non-achiever in high school. His reference to difficulties with his parents and with other students suggested a feeling of rejection. Whatever the causative factors, he perceived himself as a failure in a hostile environment in which he had no power and/or autonomy. In many respects then, he saw the school in the same way Goffman (1961) saw the total institution and he was the powerless, coerced and resigned inmate. One can only wonder to what extent expectations for gifted achievement were placed on him when in fact, his grade 6 and 9 IQ scores suggested he was not "gifted". He may not have been capable of performing gifted work and consequently, was not able to measure up to parental and/or teacher expectations. Unrealistic expectations may well have served to negate his feelings of self-worth and his ability to succeed, the ultimate consequence being the resentful, hostile and alientated failure he had become in high school.

CASE #4 - IDENTIFIED GIFTED FEMALE, RESIDENTIAL SES #4
FATHER'S OCCUPATION: OWNER OF SMALL SERVICE SHOP

IQ SCORES - GRADE 3 - V 133/ NV 119
GRADE 6 - V 136/ NV 125
GRADE 9 - V 133/ NV 133

GPA - GRADE 7- 68.3% GRADE 8 - 69.3%
GRADE 9- 63.8% GRADE 10 - 66.5%
GRADE 11- 62.3% GRADE 12 - 64.0%

Case #4 similarly saw little value or meaning in school although she was not overly concerned with her grades. School was ...

> "great until high school ...I've had a taste of working and don't enjoy school anymore. I get paid for doing something with my time."

She had no plans to go to university although she was "not sure yet" what she wanted to do. She was taking as many business courses as she could because "maybe (she'd) like to be a secretary..." but she first wanted "some experience in the field", and then maybe go to a community college for business education "but I don't want to go back to school".

Despite her apparent rejection of school, she was not negative towards it. It just had no relevance for her personally. She preferred the work world. This preference for things outside of school was evident when she ranked music, friends, working and books (..."I'd die without books") as most important to her. She had "no real dislikes" in school other than the lack of options" and the only change she suggested was that elementary should have been more difficult... "Everything was a breeze, didn't have to study -- no discipline on my part so I got B's and C's. It got tougher as I went along but it was still relatively easy". She explained that in elementary school, she had been in a high ability group and that " high ability kids were always ahead -- kids will always get bored if they're not constantly challenged". Though she felt there should have been more challenge, she would not have wanted to participate in full - time programming ...

> "would be okay for some subjects but I don't think I'd want to be grouped. I don't think I'd like it - to be constantly motivated, challenged... if you don't do as well, then a lot of pressure to be better..."

It was for this reason she would not have taken the IB (International Bacculaureate) program as well as the fact "it segregates you too much." Her rejection of IB and full-time gifted programs suggested a lack of competitiveness and a low need for achievement. This was further supported by her relative unconcern with grades. Her GPA's were consistently in the 60's but as she said, "I prefer my job. I think for the effort I'm putting in, I'm doing okay."

School was "not really boring, it's what you make of it. Math class is boring, but I don't see where I'll ever use it unless I go into engineering". Math was the one area in which she felt "really dumb" and "not too quick". Consequently, her perception of her ability in math and its relevance to her future goals influenced her attitude towards it. Thus, her low achievement was a function of her perceived inability to do well in the Sciences and her lack of interest in them.

In general, she saw herself as ...

> "kind of lazy, don't put in a lot of work. I do well at last minute efforts -- good at impromptu stuff. I manage to pull off a rather decent mark... I shouldn't say I hate school. I like Food Sciences. If something holds my interest, I'll put work and effort into it. But I've never had to work. I'd rather read. I'm sure I could do better ... no skin off my back! I pick up things easily. Out of my family, I got the load of common sense. I can't understand why some people can't do things."

Perhaps some of her attitude towards school work stemmed from the fact that good grades could be obtained with minimal effort, an attitude derived from grade inflation and minimal work standards and expectations common to many classrooms. This was evident in her comments when she said that ...

> "If one had a good teacher, then the course

> could really be interesting. In Math, the teacher didn't care. I didn't go to class and still got a 65%."

She had thus learned not to work. The reward, i.e., the grade, was still there regardless of whether she worked or not. As she saw it, there was little relationship between effort and grades and therefore, little meaning for her in the academic enterprise. Her job, on the other hand, appeared to provide a meaningful relationship between effort and reward, the remunerative rewards being worth whatever effort was expended.

Part of her attitude towards school may have been derivative of her gender and class origin. Part, however, seemed to be derivative of her awareness of the contradictions of "credentialism" and the tensions she saw between schooling and education. School work was distinct from learning as indicated in her comment about the importance of books in her life. It appeared she set her own pace and defined success and achievement in her own terms rather than playing the student role expected of her by teachers.

For her, school was not a "means to an end". The end she sought did not require higher levels of education. Because of the low value placed on education and schooling, her motivation to achieve was low and her poor achievement appeared to stem primarily from a conflict of values and perceived irrelevance to her goals.

CASE #5 - UNIDENTIFIED GIFTED FEMALE; RESIDENTIAL SES #4
FATHER'S OCCUPATION: UNKNOWN

IQ SCORES - GRADE 6 - V 142/ NV 132
GRADE 9 - V 130/ NV 133

GPA -	GRADE 7 - 88.3%	GRADE 8 - 83.8%
	GRADE 9 - 82.3%	GRADE 10 - 65.5%
	GRADE 11- 63.0%	GRADE 12 - 57.0%

Though her marks may not have reflected it, CASE #5 was very positive about school and her abilities. She was extremely attractive, impeccably and fashionably dressed, enthusiastic and outgoing. Using Drew's typology, she was the typical social leader -- the popular, attractive female whose social life was more important than her academic life, a value which was evident throughout her comments. According to her,

> "School has been a positive thing -- not the specifics but social relations and techniques of learning are very important. It keeps students interested. Occasionally, there are teachers who approach subjects as a chore. If they're not interested, students will not learn. All in all, I don't have too many criticisms."

The one change she wanted to see effected was the opportunity to "work at home at your own pace, but (she) wouldn't want to miss the social relations." She described herself as ...

> "an underachiever cause I don't have the work habits I should. I don't feel the competitiveness or pressure to succeed. I learn enough to be acceptable. I lost the competitiveness, the drive with marks -- doesn't seem as important now. It's starting to matter more now that it's getting closer to University. I didn't feel any reason why I should do better. Whatever I do, I'm doing it for myself. I just didn't feel the ends justified putting in all that work. My friends feel a more balanced life is more

> important... school is important but it hasn't been that important to be at the top of the class".

She felt ...

> " there could be definite improvements. For too long, I got away with little effort. As a result, I've been inconsistent and a little lazy, I think. Those are the big negatives -- inconsistency and laziness. I'd prefer to take a weekend and do a month's work -- get caught up. Positives ... generally I have a positive attitude in class. When I do the work, I think I do it well. When the effort is there, it's a good effort. I don't want to do work in a slipshod manner... my habits are becoming more extreme -- much more of a concentrated effort but I don't see remembering what is learned in a concentrated block as a problem. Perhaps, schools should be teaching study habits, get into a steady, organized methodical study pattern."
>
> "... as a learner, I'm quite quick to catch onto concepts or new ideas, perhaps too quick to accept them as I learn them, use them, verify them. I don't go back enough to get a step by step understanding."

She indicated her best subjects were English and Social Studies but because she did not do her assignments, her marks did not reflect her strengths. She was "very good in Chemistry" because "once you have an understanding, you can get it". Biology was "simply a matter of memory and she had a "good short term memory". Math, on the other hand, was lower because it was ...

> "a cumulative subject and I'm sure I haven't retained enough... once you fall behind, there's a cumulative effect. You become disinterested and don't do the work ..."

She explained her interest in school changed in junior high...

> "must have been sufficiently challenging in

> elementary since the interest was there. In junior high, the interest started to drop off... it was perhaps a combination of peer pressure and dull curriculum - don't put in as much effort and still get good marks. You begin to put less effort in. Junior high was often boring. You had to wait for everyone to catch up and there was never enough to do. But I wouldn't want make work projects, not just more pages... the solution would be to have more optional activities ... looking into the effects, the offshoots of a subject. If they were interesting enough, then I'd do them. They shouldn't be repetitive, need to work out some interesting variants..."

She knew her achievement could have been better but because it was not important to be at the top of the class, she learned only enough to achieve at acceptable levels. Her choice, however, gave rise to lower levels of teacher expectations and she objected to this since she felt she was being under-estimated. In other words, she was aware of the expectancy process and objected to its unfairness and imposition of limits on potential. In essence, she perceived a static permanency to teachers' expectation levels and objected to their intransigence.

> " ... teachers should not take whatever students do as a personal affront, like not doing work. They see it as an insult to them. I don't think it ever is... would want one who doesn't categorize prematurely that the student will perform in the same way as before. They should believe in the potential of student to do better -- to give hope so you don't give up. It's important you don't feel you've been under-estimated."

Her choice to perform at acceptable levels was made in relationship to her valuing her friends and sharing their attitudes. It was their feeling she should strive to maintain a ...

> "balance in your life and to find an equilibrium within yourself. If there's not enough challenge, provide it for yourself."

This she did by choosing to attend an upper/middle class academic school but also by choosing to achieve at acceptable levels. Her friends, however, were not her school peers.

> "From a learning point of view, it's better to be in an academically oriented school - but it's still very important to be exposed to different abilities, different perceptions. Too many here have grown up in a static middle class neighbourhood and haven't been exposed to a lot. Some of the comments from these kids -- they're just not aware..."

In summary, Case #5 was well aware of her abilities although she felt that her teachers did not recognize them because she chose to perform at acceptable levels. It was not important to be the best. In other words, she made a conscious choice to "fit in with the crowd", to seek average accomplishments because of her perceived need to maintain a balance in her life. School was important and was seen as a "means to an end"; however, there were other things that were equally important to her. Her low achievement, then, was a level she chose to meet her expressed needs. In this, she felt she had a distinct advantage over many of her classmates whom she felt had been been reared in very protective, "static middle class environments". Having herself grown up and attended schools in a lower middle class neighbourhood, she felt she had a greater awareness of the realities of life and therefore a greater advantage in making life choices. Much of this she attributed to her friends, most of whom were either working or going to university. As with Case #4, the social factor played an important role in her decision not to achieve and in this, gender effects were noted.

Perhaps the most significant finding was her complete awareness and objection to the expectancy process. She knew she was capable and successful yet she also knew her teachers did not see her in the same way. For them, being successful meant conforming to expectations of the good student. This she was unwilling to do, not because of a hostility to authority but because of a conscious negotiation of the extent to which she would conform. She had engaged in a contingent valuation process and her resultant achievement behaviours were the consequence of this valuation. Thus, she defined school success in a different way than her teachers did although both defined the ultimate achievement, i.e., a university education, in the same way. Whether or not she achieves her university ambitions is questionable since her grade 12 GPA is well below university entrance requirements.

CASE #6 - IDENTIFIED GIFTED MALE; RESIDENTIAL SES #1
FATHER'S OCCUPATION: PSYCHOLOGIST

IQ SCORES - GRADE 3 - V140/ NV 148
GRADE 6 - V126/ NV 134
GRADE 9 - V130/ NV 142

GPA - GRADE 7-75.5% GRADE 8 - 72.0%
GRADE 9-66.8% GRADE 10 - 55.0%
GRADE 11-58.8% GRADE 12 - 60.2%

Whereas Case #3 had internalized failure and basically resigned himself to the alienating nature of schooling, Case #6 did not see himself as a failure nor as having his life chances determined for him. He saw himself in conflict with the system of knowlege and of pedagogy, and not with the system itself. To use Drew's typology, he was the classic creative intellectual -- one whose way of thinking and doing was in conflict with the structural constraints of the classrooom environment. He was self-confident, enthusiastic, well adjusted and very opinionated, expressing great pleasure with the opportunity to discuss his criticisms of the educational system. As far as he was concerned, school was...

> "outdated ...a self-perpetuating system that has no room for growth and development. There's no accurate measurement of ability or achievement. For a lot of people, it's what they need -- no alternatives. It does a lot of good. It hones your thinking abilities but it universalizes everything -- to think the same way. I don't think that's good at all. No room for thought, can't challenge or oppose ideas. The course material and the evaluation system is headed in the wrong direction... I don't like to think I'm learning someone else's opinion. I can generate enough curiousity to pick up enough things on my own. I'll challenge certain points, defend myself but this is not compatible with teachers with different styles."

Thus, it was the control of knowledge to which he objected, feeling that junior and senior high school restricted free thought. In essence, he was challenging the authority relationship between teacher and student in the transmission of knowledge and was arguing for the establishment of an integrated knowledge code with its invisible pedagogy (Bernstein,1975), the same as he had experienced at the elementary level and in the Gifted Program. As he explained,

> "Elementary school was most enjoyable and challenging in a number of ways. It was freer, open and relaxed, a greater community sense and feeling good about what you're doing. I thought things would get bigger and better in junior high -- if we continued like that, it would be really good. But junior high was like an institution, no time to talk to a teacher, really impersonal -- just terrible! I look back now, no excuse for the way we were treated. It allowed for resentment -- treated like criminals -- shot to hell in junior high ..."

Therefore, the more hierarchical structure of the junior and high school imposed restraints upon his active involvement in his own learning and imposed a superordinate and subordinate relationship between teacher and student. In this, he suggested that the high school, characterized by the collection code with its implicit assumptions regarding the immutability of educational knowledge, controlled student thought. However, he also suggested that for some people, this was what they needed. This was akin to Bernstein's argument that only a pre-selected elite should have access to the ultimate mysteries of the subject and/or code as well as to the knowledge that knowledge itself was not immutable. Thus, as far as he was concerned, he wanted an educational system with relaxed frames and weak classification (Bernstein,1975).

According to Bernstein, those having access to the knowledge that knowledge systems were permeable were the new middle class, i.e., the interrupter group having only "cultural capital" to transfer to their children. Case #6 was of this interrupter class, his father being a professional involved in the cultural production and dissemination of knowledge. Therefore, his early socialization into an integrated knowledge code made him dissatisfied and frustrated with the collection knowledge code typical of the junior and senior high school. As he said,

> "I'm a frustrated and resentful student -- my achievements reflect this ... have a bad reputation for not getting assignments done."

Seeing himself as an independent thinker wanting the opportunity to plan and pursue his own learning, he set his own pace and initiated numerous projects at home. There, achievement was on his own terms and in those areas in which he felt a personal responsibility. As he said,

> "I've achieved more on my own than I've achieved in school. I have a high ability to teach myself but not at school. I have a lot of self motivation... I'm doing great outside of school. I have a lot of spare time projects and get more of that time than the rest of time I spend in school... lucky I was taught how to use my spare time.

Consistent with his earlier comments, he felt that the ideal teacher was one who was philosophic, patient, broad-minded and who made learning "seem like it was meaningful". He felt it was important that teachers tolerate and accept all divergent viewpoints. However, he was unwilling to blame the teacher if a course was boring or uninteresting, indicating the blame lay within the student himself ... "

a lot of teachers apologize for the course being boring at the beginning of the year... I like to think it's in myself rather than in the teacher." This did not mean, however, that school was not boring. It was. "A million reasons why, hard to specify. If I'm in a relaxed mood, then it's enjoyable and interesting." But boredom was "just symptomatic of the system".

He had participated in elementary gifted programs and was supportive of ability grouping. He indicated if they been available in the higher levels, he would have participated because of the freedom and responsibility allowed students to engage in considerable self-directed learning. He realized there was opposition to programming for higher ability students but said, " some kids get hostile... think when they divide kids up, you'll end up with Hitler youth. They should segregate high ability students with certain learning styles with teaching styles..."

In summary, Case #6 saw an incongruity between himself and his teachers. Whereas Cases #2 and 3 saw an incongruity arising from class barriers and differential value systems, Case #6 saw the incongruity arising from pedagogical preferences. In a sense, there was a conflict of values except he saw the school imposing a form of thought control whereas #2 and #3 saw the school imposing a form of social control. Because he was unwilling to conform, he did minimal work with the result that his achievement was poor.

CASE #7 - IDENTIFIED GIFTED MALE; RESIDENTIAL SES #1
FATHER'S OCCUPATION: ACCOUNTANT

GRADE 3 IQ SCORES - V 142/NV 135
GRADE 6 IQ SCORES - V 150/NV 145
GRADE 9 IQ SCORES - V 135/Q 130/ NV 127

GRADE 7 GPA - 83.3% GRADE 8 GPA - 75.8%
GRADE 9 GPA - 81.5% GRADE 10 GPA - 59.0%
GRADE 11 GPA - 49.0%

CASE # 7 was quite bitter about his schooling experience and seemed to blame the school and his peers for his low achievement. He decried the largeness and impersonal nature of the high school, feeling it was impossible to get to know many teachers or students. He felt one of the greatest disadvantages was that "you get labelled as a member of a group" and that it was difficult to change people's labels even though the behaviours changed. He felt school officials were "out to get you rather than out to help you. All they do is spend time trying to kick people out of school." He also felt that teachers did not care about students ... "some don't care whether you do good or bad, doesn't really matter to them", all of which suggested he felt victimized by a large, dehumanized school system.

An outer-directedness was evident in many comments throughout the interview. The first pertained to his need for meaningful rewards for doing school work. He indicated,

> "I'm not using my intelligence as much as I used to. I need a reward for doing something on my own ... the ideal teacher should be able to give students some way to make work

> interesting, some satisfaction, some reward ... like giving me 20 new booklets and allowing me to finish on my own -- giving a realistic goal and working for it."

He wanted to have a meaningful reason for doing his work and then an acknowledgement that his efforts were recognized and appreciated. In other words, he needed extrinsic motivation to do his work well, something he obviously felt was lacking in junior and senior high school.

This need for meaningful extrinsic rewards was also expressed in his rejection of the International Bacculaureate as a suitable alternative for himself.

> "IB is not what you need -- don't come out with anything special. Rewards aren't enough to go into it. There's no guarantee about university entrance. In regular courses, you get higher marks."

Aside from the issue of rewards, he seemed opposed to IB programs, not because he disapproved of ability grouping but because of the label attached to it. He commented that...

> "The IB program was not laid out well to us. They put a stigma on it -- only for the superintelligent. Looked like if you were in IB, everyone else was second class."

He indicated that classes should be "divided so that the enriched are in one class so that they can whiz along". He would rather have been in a segregated class "if they did it the right way. Don't tell anybody, don't advertise it -- just do it." He wanted more challenge but not the stigma attached to the label of being superbright. This feeling apparently developed in junior high where he had to learn to be "one of the guys". As he said,

> "In elementary, I was young and had a fun time. No one gave you peer pressure. In grades 7 to 9, I started to get extra work -- teacher's pet. Kids teased you, bugged you - now everything is boring except computer. Don't want to miss it. Nothing will stop me from attending. Had a problem in junior high. I started to get bad marks, so that the kids wouldn't bug me. Stopped working. You learn not to take your brains outside. You have to hide it. Don't use them outside, use them inside. It gets people nervous so you have to play it cool -- as long as you don't start to be dumb. You gain more acceptance with other kids."

He had learned that being bright was not okay. In order to gain social approval, he felt he had to hide his intelligence and "act dumb"; therefore, he consciously sought lower grades and adopted behaviours which were more acceptable to his peer group. Thus, he knew he was bright but in order to be "like the other guys", he had become a poor student. He saw himself in the following way ...

> "... a student who doesn't put in enough effort. Walk in for a test without studying -- don't push myself hard enough. Everybody needs to be pushed. If someone gave you a good kick in the pants, then it'd be good..."

Insofar as his achievement was concerned, he made a distinction between school achievement and extracurricular achievment. Generally, he felt "pretty good" about his achievements but he had not achieved anything in school.

> "...not recognized as much the things I do at home -- computer games, finishing a book -- reading, understanding and evaluating it. I take a lot of pride in these things ... educational system is supposed to do things for me ..."

He appeared to attribute his poor achievement to the lack of challenge and stimulation in his classes, indicating that most of the content that was being taught he already knew and that much of it, like Shakespearean literature, was not relevant and therefore, boring. In fact, if he could, he would "take out the old English" and replace it with "Tolkien and more interesting reading." As he explained,

> "a lot of the problems we get, I can already figure them out and so there's a fair lack of motivation. My abilities are fairly evenly distributed. I think I can understand and analyze better than I can write or say them ... boredom is definitely there ... get five pages of homework, do it and then sit there and wait, just sit there -- one of the bigger reasons. There are few new concepts. If new, they challenge you ...

Elementary school, on the other hand, had always been challenging and more to his liking.

> "There were better teachers there - once you did your basic work, did extras. They were fun to do and you were never bored -- always something to do. In junior high, there was too much classroom teaching, not as many projects. They start to teach students not people, if it makes sense to you. In English, teachers would be inconsistent. You should learn to do essays in junior high, then you'd be ready for high school. At senior high, you find very little challenge in anything -- you could call me a good example of a bored student. It should come down to regular teachers providing the extra things ... "

Much like Case #6, Case #7 preferred the child centered learning environment of the elementary school which permitted him not only more choice in what he was learning but also more consociality between teachers and students.

There, he was seen as bright and received both teacher and peer approval. In junior high, both of these changed. Teachers no longer knew their students as well, partly because of the size of the school and partly because of the nature of the relationship between teacher and student in a traditional junior high school. The structure prevented the same type of consociation and pedagogy as was possible in the elementary school. Whereas in elementary, there had always been extras to keep him busy and challenged, in junior high, he had to "sit there and wait, just sit there ...". Thus, the difference in educational transmission codes (Bernstein, 1975) in elementary and junior high appeared to be a major source of internal resistance since his role as learner had changed. The value placed on brightness had also changed. No longer did his peers value bright achievers as they had in elementary. Thus, he received contradictory messages regarding his selfworth and was forced to reevaluate himself vis à vis the others. The consequence of this appeared to be his confusion about himself and his lack of coping strategies.

In summary, Case #7 seemed to attribute low achievement to a combination of peer pressure to be "one of the guys" and a lack of challenge in the classroom, the combination presenting a dilemma for him. On the one hand, he wanted challenge and to be pushed, but on the other, he rejected it because of peer disapproval. His focus on the need for appropriate rewards, for recognition and for social approval suggested not only an external locus of control but also an extreme sensitivity to his social environment. His concern with people's labels and opinions of him was based on an association with the "wrong crowd" and despite his attempts to change, the acquired label stayed. He ranked his social life as the most important thing in his life, a value which was consistent with his emphasis on friends and peer approval. As he saw it, he was a victim of an impersonal, uncaring institution which did not provide the meaningful, extrinsic rewards nor the challenging experiences he felt he needed. As far as he was concerned, the junior and senior high school environment was neither encouraging or supportive of his needs.

He expressed great concern about his future and was not sure what he would do ...

> "My future? Maybe take a year off, take new courses, then go to university, get a white collar job, not sure yet what. Don't think I'd enjoy computing science as much as law or medicine although medicine is not great especially with everyone complaining about those making money ..."

Whatever his future, he was optimistic and had faith in his ability to do well ...

> "Bright people can make the best of any situation ... can manipulate the situation to make it work for you.... I talk a lot with (...) who chose not to go into enrichment programs. We talk a lot about it. We feel bright people will always do the best ... if you're bright, you can always overcome your problems."

CASE # 8 - "IDENTIFIED GIFTED" FEMALE, SES #3
FATHER'S OCCUPATION: TEACHER

GRADE 6 IQ SCORES - V143/NV135
GRADE 9 IQ SCORES - V139/Q144/NV147

GRADE 7 GPA - 89.5%
GRADE 8 GPA - 90.5%
GRADE 9 GPA - 95.0%
GRADE 10 GPA - 91.6%
GRADE 11 GPA - 92.7%

CASE #8 was very positive about schooling and her achievement. She was enrolled in the IB program and thought it was "just super." She was disappointed, however, that she could not take all the classes she wanted to take. She wanted to see a lengthened school day to provide "enough time to take more classes... would like to take about 10 per semester" because the IB program was ...

> "...too limiting, too narrow. It limits the fields one can go into ... wanted to take more than just the six IB because you can't get into too many faculties. I want to take a lot of courses needed for career choices."

Despite the limiting nature of the IB program, she enjoyed it because other courses were ...

> "not as concentrated or fast moving. I get the point quickly. Sometimes its boring because it's repetitious. I'd want to see ability groups at high school, you know... differentiated core programs. I would have gone into differentiated core programs."

She stated a preference for high school as opposed to elementary school where she felt there was "too much play time" and where "you didn't learn too much." She felt junior high was merely an introduction to senior high where you "knew nothing about everything" whereas high school was much more specific and "you learned so much". She indicated "you have to have high school" and that she did "the work because it is necessary." She identified school as the most important thing in her life, followed by her family and friends. Her goal was to be a mathematician or "in a more practical sense, engineering or computer engineering". Thus, her attitude towards school was very positive.

She felt that if changes were to be made, she would have liked to have seen more flexibility in taking classes with another period block added and the introduction of specific classes in areas of weakness ...

> "Public speaking is not emphasized. Everyone needs help here, need to talk in formal situations. Oral speaking is my weakness. I have a fear of screwing up what I'm trying to say, feel a lot of pressure when I have to speak..."

The other change she wanted to see implemented was the introduction of differentiated classes for the different learner groups.

> "If you're split up too young, you form cliques and it's hard to break down barriers I see IB students as stereotypes ... The gifted program in elementary was terrific! They laid down the goals, learned the most in that class. The barriers were from envy only, not socially. I felt people were at my level".

However, she indicated that she would not have wanted to participate in full - time programs at the elementary level because "you get too separated. Education should not separate you from others -- the social is important." As would be expected, she did not find school boring.

> "I don't think school is boring. A few classes are. It depends on the class. If the student doesn't like the class, he doesn`t enjoy it and won't work. For me, I love science and math. They're just fascinating! Attitude is what makes class boring. I don't

> like Social or English-- that's what's boring. The work is tedious. Boring? It's mainly interest, has nothing to do with what is learned in school."

She described herself as a ...

> "student who is interested in learning. I like to have the image of knowing it all. I'm pleased with my achievement, I'm happy about it. I don't think it's different. I do my best. I get upset when I don't meet my standards. That's hard on me cause I'm perfectionistic. The self is the source of pressure. Teachers put no pressure on me and my parents don't put pressure on me. I do feel Social and English are low. I work incredibly hard in them. I want to get all my subjects above 93% although I know if I didn't work, I'd still get an A anyway...I think my goals are too high".

Like many other students, she found junior high the most difficult. That was when she "really started to work" although she "pretty well did it on (her) own." She experienced peer pressure not to achieve but chose not to be influenced.

> "Most kids were intent on having a good time. I was sort of ostracized from the others because I was always studying. I had to learn how to study by myself. By grade 9, my study habits were well developed."

She also indicated there had been some problems with the girls in junior high...

> "From what I've experienced at high school, girls support me and I have their respect. It used to be problem. I found I had to be extra - nice, extra - funny just to fit in in junior high. Now, they have to take me as I am."

In summary, Case #8 was the typical achiever -- an A student who was confident, independent, had high expectations and university aspirations. She wanted to be the best and her efforts were so directed. She appeared to have an internal locus of control and credited her success to her efforts and motivations. Learning was intrinsically rewarding to her and because she saw school as a "means to an end", it was highly valued. As she said, "Attitude is what makes it..." and her attitude was definitely achievement-oriented.

CASE # 9 - UNIDENTIFIED GIFTED MALE, SES #1
FATHER'S OCCUPATION: PROFESSOR

GRADE 6 IQ SCORES - V 122/NV 116
GRADE 9 IQ SCORES - V 135/Q143/NV 149

GRADE 7 GPA - 80.0% GRADE 8 GPA - Not in system
GRADE 9 GPA - 83.3% GRADE 10 GPA - 85.3%
GRADE 11 GPA - 87.6%

Case # 9 was similarly the typical A student -- the high achiever who was self-confident and who appeared to have internalized success. He indicated that "school was fairly enjoyable" although he felt there "could've been more challenge" as well as "streamlined classes like they have in Britain". He felt this was important because students should be "given the opportunity to develop skills and abilities as close as possible to your own pace" and to "be required to try more complex problems". At the junior high level, he felt ability grouping would have been better since "a lot is aimed for the bottom of the group -- have to separate some of them instead of having them all in one group." He indicated that at the junior high level, they "put you down" and "bug you for being brighter". However, it never really bothered him -- "It's better than being dragged down, better to move ahead..." He had chosen to take the IB program in an academic high school and indicated that "here, more kids admire you for your ability than put you down". Thus, he found that the school climate was supportive of his drive to succeed and that the other students there had similar goals and aspirations. As he said, "It has provided the atmosphere I expected. Challenges are there..."

He saw himself as an extremely capable student ...

> "very capable especially in Sciences... enjoy them greatly. I got my best average in grade 11. There's a personal satisfaction in achieving what I am. I motivate myself to do well although the motivation varies with the different subject areas -- more for things I enjoy and those I feel I'm capable for ...I let English and Social Studies slip. If I felt it was important, I'd do better in them... it is important to establish priorities so you end up where you want to go. Whatever I want to do, I will apply myself..."

He was pleased with his achievement in high school although he was not as pleased in junior high. At that time, he ...

> "slacked off... didn't like school a lot. Basically like everybody else. I started to mature a lot after our year away --grew up, saw the value of education. In grade 10, I really started to pick up. This year, I want to improve even more. I tell myself, `let's see how good you really are'. There's a lot of self motivation and challenge. So far, I'm doing fairly well... I get upset with myself when I don't do as well as I want to. I'm goal oriented, perfectionistic although this applies more to math. In Sciences, you can perfect your achievement. In the Humanities, it's very difficult -- always a change or adaptation required, can't be perfect."

His striving for excellence, his goal orientation and demand for challenge suggested an internal locus of control. However, he attributed his success to his parents whom he felt encouraged and nurtured him along the way.

> " I've had lots of help from my parents, a lot of European values and togetherness. There's a lot of communication and no problems. That's a help with education. My parents helped develop self- discipline... I want to do things that will make my parents happy. I want them to be proud of me ..."

He made reference to his father numerous times, quoting him often and saying, "I really admire him. He's my role model and I want to do well to make him proud of me".

As expected, he indicated school was the most important thing in his life... "really important to me". The second important thing was "to be in good health -- don't do as much sports as I'd like. It's important -- healthy body, healthy mind..." The third thing he mentioned was "education in learning about the world around me like my paper route, scouting, camping, decision making..." and the fourth was friends. However, he felt that one had to "regulate friends in moderation and not to excess -- like parties every weekend." This was necessary because ...

> "You have to be superhuman to do other things besides doing the IB program but I'm still managing to squeeze in soccer although it's really hard to fit everything in... always sacrifice something. If you feel those things are important, still fit them in ..."

His future still had not been decided although he knew it would be in the Sciences. There were "too many choices...huge decision and I'll need a lot of guidance from my father."

In summary, Case #9 was the classic high achiever who was goal-oriented, self-disciplined and internally motivated. He strived for success and put forth whatever effort was required to achieve the desired levels. He exuded self- confidence and appeared to have a very positive self concept. Family relations were strong in his life and played a primary role in his achievement. His peer relationships also appeared to be strong. His involvement in many school related and after-school activities suggested peer acceptance. Obviously, he did not need friends to the degree some of the other students needed friends. He was able to regulate the degree of social interaction with his peers. It appeared that he was in control of his actions and that he had chosen not to become diverted by peers from his academic endeavours although the fact that he was in the IB program with other students having similar attitudes and values undoubtedly minimized the possible diversions. He gave the impression of a very strong independent individual who "had it all together" and who knew exactly what he wanted out of life and how to get it.

SUMMARY AND CONCLUSIONS

These were but a few of the individual cases that could have been included in this section since so many provided insightful comments. Most were very aware of the various processes which were operational in the classroom and aware of the roles expected of the different members, their perceptions and analyses providing for extremely interesting interviews. There were some, however, who seemed somewhat unaware of the internal dynamics although the greatest proportion had analyzed the social climate of their school, the type of social groups within it, where they belonged and the appropriate social behaviours in order to be accepted as a group member. To this extent, high achievers and low achievers were very similar for they were equally capable of identifying the various elements of the hidden curriculum and the factors which served to facilitate academic success. The difference, however, lay in the degree to which they were willing to play the game according to the established rules. Perhaps one of the high achievers said it best when he said, "Most students play the role because they have to ..." Thus, they knew that success resulted from playing the student role and and that failure to do so resulted in a lack of success. High achievers had to play the student role not only because they needed high school to get into university but also because they wholly endorsed and internalized the set of values and attitudes underpinning the achievement ethic. They sought professional and/or managerial careers just as their parents had done in the past, and even though they were aware, and quite critical of the inherent contradictions within the institution, they conformed to the degree necessary to achieve the academic success they needed to meet their goals and aspirations.

Essentially, high achievers appeared to be typical A students -- hardworking, studious goal-seeking individuals. University attendance was a "given." It was an unquestioned expectation which had become an integral part of their belief system and which was demonstrated by the high proportion (92%) indicating definite plans to go to university. They valued school highly, seeing it as a "means to an end" and accepting it, albeit not without criticism, as a "given". They valued school also for the social, educational and psychological benefits and for the most part, found it a positive and satisfying part of their life. Thus, they valued school as much as their friends, seeing both as essential for their happiness and success. For them, it was important to be academically successful and to be the best; therefore, they set high standards for themselves and sought to achieve them. However, far from seeing themselves as model students, the majority admitted they did not work as hard as they could. Some felt they were "lazy, very lazy", citing the lack of good study habits as their major weakness. But because it was often "too easy" to get good marks, they were able to obtain high grades with a moderate amount of work. This made some feel like "frauds" because they got marks they felt they did not deserve. Many said they studied hard enough to obtain an 80% - 85% but they "didn't go all the way to get a 90%." Thus, they knew they were capable, felt positive about their abilities and appeared to set relatively high goals and standards for themselves. They were motivated and committed to succeed and therefore, directed sufficient effort to ensure that success.

Low achievers, on the other hand, appeared to value peer relationships and personal interests more than they valued school. For this reason, school played a less important role in their lives than it appeared to play for high achievers. Part of this devaluation may have been due to the fact that few of the low achievers had university ambitions and did not see school as a "means to an end"; rather, it was the end in itself. Part of this devaluation, also, may have been due to gender and SES effects on their attitudes and values. Only two of the low achieving females had fathers occupied in professional/white collar jobs with the other having fathers occupied in skilled and/or semi-skilled jobs and living in low SES neighbourhoods. Like Cases #4 and #5, these low SES females, even though they indicated they liked school, valued their social relationships and jobs more than they valued school. For them, it was not important to get the highest grades -- "don't equate brightness with marks ... not important to get the highest marks. It's second rate to knowing the stuff." As long as they obtained acceptable grades, they were happy. They knew they were bright but there was a difference between being a student and being a learner. Knowing was more important than doing and as long as they remained just above average, they were able to satisfy their parents and teachers yet have time to pursue their other interests. The two middle class low achieving females did not have part-time jobs like their lower class counterparts but they similarly indicated their friends, interests and social lives were very important and they did not want the extra pressure or competitiveness that a more challenging academic program would offer. One had actually enrolled in the IB program but withdrew because she felt she had to work too hard for the marks she got and because it took away too much time from her other activities. As she said, "Why work so hard? I want to enjoy life too." The other female had chosen to remain in the regular high school program even though her high school offered the more challenging IB program. Thus, all low achieving females seemed to value their social relationships, interests and/or jobs highly and to reject competitive classroom environments. This suggested a more expressive orientation and in this, gender effects were noted.

Low achieving males, on the other hand, appeared to be more diverse in their attitudes than females had been and appeared to be somewhat more ambivalent and dissatisfied. They too focused on social relationships although to a lesser degree than low achieving females. There were some who, like Case #6, appeared to be extremely positive and self-directed but less motivated to conform to the status quo. For them, low achievement stemmed from intellectual divergence and a rejection of the inflexible, rigidity of the typical traditional classroom.

There were others like Case #7 who perceived that "being bright" was "not okay" in their social milieu and who, needing peer acceptance, consciously sought to "be like the other guys". They downplayed their intelligence, neglected their studies and "fooled around" like everyone else.

Then, there were those low SES males who, like Cases #2 and #3, were very despondent and dissatisfied with school and themselves. They felt rejected not only by the school but also by their peers and family. They did not have any definite goals nor did they feel anything was important except for a few inaminate things like "my truck" or "my music". Essentially, they withdrew from active participation in school life and conformed neither to adult nor peer expectations.

Some low achievers, like Cases #1 and #7, blamed the school for their low achievement and attributed their lack of success to uncaring, dull teachers. Being dependent on extrinsic motivation and rewards, when these were not forthcoming, they projected blame onto the school and felt victimized by what they saw as a dehumanized institution. They had internalized their failure, however, by also blaming themselves for their poor study habits, laziness and lack of motivation.

Certainly some low achievers appeared to have negative self-concepts and doubted their ability to handle challenging assignments, but the majority of those interviewed appeared to be positive and self-confident. They knew they were bright and capable learners but they were not good students, partly because they did not have the work habits to do better and partly because they were not interested in doing better. As one student (UG female) said, "I'm right in the crowd where I really don't care...". According to one male high achiever, "Most students play the role because they have to". It is obvious that these particular low achievers resisted playing the role. They knew what was expected but had chosen not to meet the expectations.

It seems, then, that Drew's (1963) categorization of gifted students was quite applicable to this particular gifted student population in that quite a number of low achievers appeared to be "social leaders", i.e., those who valued peer attitudes and relationships and whose social interests came before school. Others appeared to be "creative intellectuals", i.e., those who were non-conformists for intellectual reasons and who chose to differ because they had their own opinions and ways of doing things. Others were the "rebels" or retreatists, i.e., those who disliked rules, regulations and routine and who withdrew from the demands of school and social life.

Low achievers, therefore, seemed to have a number of common characteristics although they varied in degree of importance for the different individuals. They included:

(1) an external locus of control; in some cases, a

feeling of helplessness and not being responsible for one's own actions

(2) low motivation for school work

(3) dislike and/or ambivalence towards school

(4) friends with similar beliefs and attitudes

(5) poor study habits, little homework done and/or incompleted, unwillingness to complete tasks

(6) low self-discipline and tendency to procrastinate

(7) low levels of persistence in classroom work

(8) withdrawal from competitive situations

(9) few and/or no hobbies or interests; in some cases, too many hobbies and outside interests

(10) low aspirations, no clear idea of future goals

(11) pressure from parents, teachers, peers and/or self

(12) hostility towards parents and/or teachers

(13) rebelliousness/ resistance to conformity

(14) impatience with routine learning and "dull" classes

(15) feelings of victimization

Given the range of attitudes and personal characteristics that appeared to exist among the low achievers in this interview sample, the answer to the latter part of the research question, "Do students who participate in gifted programs succeed academically and if not, why not?, is not an easy one. It is clear they did not all succeed for a variety of different reasons although SES and gender effects were particularly notable. Approximately 2/3 of the low achieving "identified gifted" students were low SES students who had attended small elementary and junior high schools in their lower middle class neighbourhoods. In part then, their low achievement could have been derivative from the set of attitudes and values which were consonant with those of their lower class peers, Case #1 being an excellent case in point. He, like so many of the lower class "identified gifted" students, had been the only one from his elementary school who had been identified for the gifted program and perhaps his need to belong and to be socially accepted was greater than for the "identified gifted" student who came from a school where large numbers had been identified. To be an accepted group member, he had to adopt similar anti-school values and attitudes. Thus, the social context within which he was reared and educated had a significant effect upon his attitudes and values which appeared to be, in large measure, antithetical to the competitive, individualistic achievement-orientation demanded by academically challenging programs.

This differential value system was also reflected in the low achievers' emphasis on peer relationships, hobbies and the "good life", and in their basic rejection of competitive situations. The fact that almost 2/3 either rejected the idea of gifted programs or were uncertain about whether or they would have wanted to participate shows that even if programs had been offered at the junior and senior high school level, other factors intervened, making their success in them doubtful. For many, it was a combination of factors -- competing priorities (jobs, sports, music lessons, extra-curricular clubs and organizations...), a lack of good study habits, a lack of interest and desire to be the best, a dislike of competitiveness and pressure, a dislike of segregation and a need to have a social life. Whatever their personal reason, they appeared to have chosen to achieve at a lower level to meet some of their other needs, suggesting they engaged in a process of contingent valuation. This was made particularly clear by those who indicated they were willing to forego challenge and more stimulating classes in exchange for more time to do other things and to experience less academic pressure and competitiveness. Their expressed lack of desire to be the best and to get the highest grades was in contradiction to the societal expectations for gifted youth. They did not aspire to be the brightest and the best nor to be doctors and lawyers. Thus, their personal characteristics and accompanying attitudes undoubtedly would have thwarted some of the best efforts to provide more appropriate programming. As it was, they resisted meeting adult expectations, either by setting their own expectations or by meeting those of their peers, and in general, by being less willing than high achievers to accept established ways of doing things.

In many ways however, their independence and non-conformity worked against their best interests since they, like Paul Willis's (1978) lower class youth, may have succeeded in locking themselves into lower class positions and in narrowing their chances to realize their potential for "self and society" since their grades were not high enough to get into university. According to Daniel Bell (1973), the university was now "the arbiter of class position. As the gatekeeper, it (had) ... a quasi-monopoly in determining the future stratification of the society." Thus, in choosing to achieve at acceptable levels, low achievers may have also chosen their future status. But as far as many were concerned, brightness was not equated with marks, marks merely being measures of the degree to which they played the student role. In some respects, they were right since a number of studies have shown that grades have little correlation with one's future success in the world of work (Clark, 1983; Jencks 1972); however, grades are important as entry criteria to higher levels of education as well as to certain occupational and/or professional groups.

Thus, it appears that low achieving gifted students essentially resisted the high expectations set for them because ...

> "It's not important to get the highest marks. It's second rate to knowing the stuff."

And in so doing, they also resisted conforming to the idealized view of success and achievement as defined by the dominant strata.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

It will be recalled that the primary purpose of the study was to analyze the ability, SES and achievement profiles of a group of "identified gifted" and "unidentified gifted" Canadian high school students in order to examine the validity of three myths commonly held with respect to gifted student populations. These myths, deriving from the article, "Myths that Plague the Development and Implementation of Programs for Gifted and Talented: A Visual Study" (Millar, 1981), are as follows:

> MYTH - GIFTED AND TALENTED COME FROM OR REPRESENT AN UPPER MIDDLE CLASS ELITE.
>
> REALITY - The gifted and talented come from every racial, cultural, educational and socioeconomic background" (Millar, 1981:13).

> MYTH - GIFTED CHILDREN WILL MAKE IT ON THEIR OWN DESPITE ANY SPECIAL PROGRAMMING.
>
> REALITY - Research indicates that up to 12% of gifted children have reading problems. Underachievement in the gifted begins as early as the third grade" (Millar, 1981:13).

MYTH - IF THE GIFTED ARE SO SMART, THEY SHOULD ALL BE GETTING GOOD GRADES.

REALITY - It is a fact that many drop-outs in high school are bright children who have found little meaning in the school experience. Some studies have shown that up to 55% of the gifted and talented are working below the level at which they are capable." (Millar, 1981:13)

Analysis showed that for this gifted student population, the "myths" were closer to reality than they were to myth and that they would probably remain so until the definition, or at least the identification, of gifted and talented students changed. Since the majority of "identified gifted" and "unidentified gifted" students were high achieving, high SES students having positive attitudes and univerity ambitions, the findings confirmed the strong relationship between high SES and high IQ and showed that IQ scores were good predictors of school success. The findings, therefore, reinforced the Terman position and at the same time, refuted the argument that up to 40% of the gifted students would "drop out of school because of boredom and frustration" (Association for Bright Children Newsletter, March 1983). Less than 5% appeared to have done so with neither "identified gifted" nor "unidentified gifted" cohorts having a larger proportion than the other although those who may have dropped out tended to be male and of lower class origin.

Specific findings with respect to each of these "myths" are summarized in three sections: (A) Ability; (B) Socioeconomic Status and (C) Achievement.

SUMMARY OF FINDINGS

A. ABILITY

Though examination of the myths suggested analysis of achievement and SES data alone, analysis would have been incomplete without examination of IQ data since it was the "IQ" which essentially gave rise to the myths. Traditionally, gifted and talented students have been identified on the basis of high IQ scores with scores of 130+ being considered as those in the gifted range. Because of the high correlation between IQ and SES, critics have seen both the definition and identification procedures as elitist and biased against students from less advantaged environments. Given the centrality of the "IQ" in the ensuing debate as well as the "commonsense notion" regarding the constancy of the IQ and giftedness, the ability profiles of "identified gifted" and "unidentified gifted" students were examined.

Analysis of IQ data for grade 10, 11 and 12 "identified gifted" and "unidentified gifted" students was conducted separately because each grade group had written a different set of IQ tests in grades 3, 6 and 9 although there were a number of important findings common to all grade groups. Perhaps the most important was that IQ scores were not constant over time. All "identified gifted" and "unidentified gifted" comparison groups showed substantial change between grades 6 and 9, some moving downwards, others moving upwards. These changes, particularly for "identified gifted" students, were contrary to the "commonsense notion" that IQ scores were fixed and unchanging. Of the grade 10 "identified gifted" group, a significant 42.9% scored <130 on all three CCAT batteries in grade 6 whereas a smaller but still significant 32% scored <130 in grade 9. This compared to 29.4% and 25% of the grade 11 "identified gifted" students scoring <130 in grade 6 and 9 and to 28.3% and 23.2% of the 12IG students scoring <130 on all batteries in grade 6 and 9. In other words, between 23% - 43% of the students identified in the primary grades no longer scored >130 in the later grades. This meant that if gifted programs had been offered at the junior and senior high school level and if the IQ cut-off score of 130 had been rigidly enforced, they would not have qualified, a finding clearly demonstrating the instability of IQ test scores over time and challenging the use of IQ cut-off scores for identification purposes.

A related finding, and one which partially explained the high percentage scoring <130 in grades 6 and 9, was that a small proportion of students scored <130 in grade 3. Grade 10 "identified gifted" students had the largest proportion scoring <130 at the time of identification, i.e., 18.9%, whereas grades 11 and 12 "identified gifted" students had the smallest, i.e., 8.1%. There was also a small proportion for whom primary scores were unavailable, thereby increasing the possibility that a greater percentage scored <130 at the time of identification. This raised the question of which students were actually being identified and whether or not non-cognitive and/or ascriptive characteristics played a critical role in the identification process.

The second major finding was that at the time of identification, "identified gifted" students showed superior verbal abilities relative to non-verbal abilities. Differentials between verbal and non-verbal medians were largest for grade 10 "identified gifted" students and smallest for grade 11 "identified gifted" students. This verbal superiority continued into grade 6 for grade 10 "identified gifted" students while grade 11 and 12 "identified gifted" students had higher non-verbal than verbal medians in grade 6. Since these patterns of grade 6 IQ performance were the same as those established by the respective system aggregates, they appeared to be artifacts of test construction. In grade 9, all three "identified gifted" groups had higher non-verbal than verbal scores, a finding again consistent with that for the system aggregates.

Analysis of IQ data for "unidentified gifted" students showed that different groups of students emerged as gifted at different stages of development, a finding which challenged the notion of a "reasonable and coherent category of individuals who should be labelled `gifted'"

(Robinson,1977:4). Approximately 2/3 of the 10UG9 and 11UG9 comparison groups were comprised of students whose grade 6 IQ scores increased to score >130 on 2 or 3 of the CCAT batteries in grade 9. There was more of an overlap between grade 12 "unidentified gifted" comparison groups with the majority scoring >130 in grade 6 also scoring >130 in grade 9. What is important is that these comparison groups showed considerable change in IQ performance between grades 6 and 9. This means that students who would have been considered "non-gifted" in the elementary grades were scoring in the gifted range in grade 9. Conversely, students scoring in the gifted range in grade 3 were not necessarily those scoring >130 in grade 9. This means that static identification procedures for gifted programs as well as the use of IQ cut-off scores were unjustified given the type of change which occurred for most students over time. Whether they occurred because of developmental, curricular and/or instrumental factors is unknown. What is significant is that IQ scores changed over time with "identified gifted" students generally decreasing and "unidentified gifted" students increasing, thereby challenging the labelling of students as "gifted" or "non-gifted" in the early grades.

With respect to the level of performance between "identified gifted" and "unidentified gifted" students, "unidentified gifted" students were superior to "identified gifted" students on grade 6 and 9 IQ batteries. There were several exceptions in that 10UG9 and 11UG9 students scored slightly lower than their "identified gifted" counterparts on the grade 6 verbal battery. But UG6 students consistently surpassed the performance of IG students in grades 6 and 9, whereas UG9 students consistently surpassed their performance in grade 9. Though their high level of IQ performance was expected given the criterion of selection, the relatively lower performance of "identified gifted" students was not. It was counter to the commonsense notion that giftedness was fixed and unchanging although it was consistent with statistical regression.

There were several other important findings that emerged between "identified gifted" and "unidentified gifted" comparison groups. Whereas the generally higher IQ performance of "unidentified gifted" students in grades 6 and 9 was expected, the degree of difference was not. In grade 6, 10UG6 students differed substantially from 10IG students in quantitative and non-verbal abilities with differentials between their respective medians exceeding the bounds of sampling variability. In grade 9, both 10UG6 and 10UG9 students differed substantially from 10IG students in non-verbal medians. Thus, the distinguishing characteristic of grade 10 "unidentified gifted" students was their superior non-verbal performance, particularly evident at the grade 9 level.

Grade 11 students, on the other hand, showed fewer differences between "identified gifted" and "unidentified gifted" groups. Though the general level of IQ performance in grades 6 and 9 was higher for "unidentified gifted" groups albeit with one exception, i.e., grade 6 verbal performance for 11UG9 students, only one substantial difference emerged. The differential between 11UG6 and 11IG students on the grade 6 verbal battery exceeded the error of measurement, thus indicating superior verbal performance by 11UG6 students at the grade 6 level. Non-verbal scores in grade 6 and 9 for both "unidentified gifted" groups were higher than those for 11IG students as were proportions scoring >130; however, the differentials between groups did not exceed sampling error. Therefore, a non-verbal superiority for grade 11 "unidentified gifted" students could not be claimed.

The same was true for grade 12 comparison groups. Though their grade 6 and 9 IQ performance was consistently higher than that of the 12IG group, there was a difference only on the verbal battery. 12UG6 students scored substantially higher than 12IG students on the grade 6 verbal whereas 12UG9 students scored higher than 12IG students on the grade 9 verbal. Non-verbal medians and proportions scoring >130 were consistently higher for "unidentified gifted" than for "identified gifted" students although differentials did not exceed sampling error. In this, grade 12 comparison groups replicated the pattern established by grade 11 comparison groups.

With respect to the pattern of change between grades 6 and 9, comparison groups essentially followed the same trends established by system aggregates although the magnitude of change varied slightly between groups. Grade 10 "unidentified gifted" comparison groups more than doubled the increase expected on quantitative and non-verbal batteries, suggesting a spurt in test performance. Grade 11 and 12 groups appeared to follow system trends.

The two major conclusions that can be made in terms of change for "identified gifted" and "unidentified gifted" students are that (1) non-verbal performance, regardless of the IQ test used, showed an increase between grades 6 and 9 and that (2) verbal scores peaked for different groups at different stages of development.

In summary, analysis of IQ data showed that neither the groups of students scoring >130 nor their IQ scores were constant over time. Both showed considerable change not only in the level but also the pattern of IQ performance. Analysis also showed that "identified gifted" students were superior in verbal abilities relative to quantitative and/or non-verbal abilities at the time of identification. Their verbal scores decreased with each successive test administration so that by grade 9, less than 50% scored >130 on the verbal battery. Relative to the IQ performance of "unidentified gifted" students, however, their grade 6 and 9 performance was consistently lower in all batteries with substantive differences found in eight of the between - group comparisons (varying with the battery and the "unidentified gifted" group).

These findings suggest two general conclusions:

(1) There was a basic difference between groups with "identified gifted" students showing a verbal superiority in the primary grades and with "unidentified gifted" showing a non-verbal superiority, particularly at the grade 9 level.

(2) Different groups of students probably would have been selected for gifted programs if selection had taken place in the later grades and if non-verbal abilities had been stressed in the identification process.

B. SOCIOECONOMIC STATUS

The major finding with respect to SES data was that all gifted students, whether identified or not, were heavily concentrated in the upper middle classes with little representation from the lowest SES classes. Few major differences emerged between groups although "unidentified gifted" students tended to be slightly more middle class in origin while "identified gifted" students tended to be more upper middle class. Differences, however, were not large.

The disproportionate representation of high SES students in the gifted student population was made apparent when the proportion of gifted students from the two highest SES classes was compared with the proportion of city residents living in those particular SES communities. Residential data for the city showed that approximately 10% of the population lived in SES#1 and SES#2 communities yet they contributed almost 40% of the "identified gifted" and "unidentified gifted" student population. This compared to 30% of the population living in SES#5 and SES#6 communities but contributing only 11.1% -- almost the reverse proportion. It is significant, therefore, that less than 12% of the "identified gifted" or "unidentified gifted" students were of SES#5 and SES#6 origin, a finding demonstrating the strength of the IQ - SES relationship and confirming previous findings. As long as giftedness remains tied to IQ scores, it is unlikely that this relationship will change. Therefore, on the basis of these findings, the so-called myth that "gifted and talented come from or represent an upper middle class elite" (Millar, 1981:12-13), is, in fact, the reality.

The strength of this relationship was not lessened when occupational data were used to determine family SES but was instead intensified. There was a much higher concentration of gifted students in the two highest SES categories with approximately 75% - 80% of the fathers occupying professional and/or managerial positions. Both "identified gifted" and "unidentified gifted" cohorts had the same three occupational groups and in the same ranked order contributing the largest number of gifted students, these being managers, professors and teachers. It is significant to note that professors and teachers contributed approximately 1/5 of the gifted student population with "identified gifted" students having the greatest proportion (21.8%). This compared to 19.5% for UG6 students and 17.1% for UG9 students. A slightly smaller proportion of fathers occupied managerial positions, i.e., 15% - 16% for IG and UG9 students and 10% for UG6 students. Other professional groups (engineers, accountants, doctors and lawyers) contributed fairly substantial proportions although relatively few were engaged in skilled and/or semi-skilled occupations, thereby suggesting a strong relationship between the incidence of giftedness, certain proprietary groups and the age students were identified as gifted. This is supported by two basic findings: (1) "identified gifted" students tended to originate from more professional backgrounds while "unidentified gifted" students tended to originate from slightly more entrepreneurial backgrounds, and (2) "identified gifted" students, as a group, appeared to develop verbal abilities earlier than quantitative and non-verbal abilities as indicated by their superior verbal scores relative to norming groups at the time of identification. They also appeared to develop verbal abilities earlier than "unidentified gifted" students as indicated by the different times verbal IQ scores peaked.

Since the majority of "identified gifted" students were of professional origin, 1/5 of whom had fathers engaged in education, their early verbal precocity is partially explained. According to Bernstein (1961, 1972), they would have been socialized into an "elaborated linguistic code" (Bernstein 1961, 1972) and would have had an early verbal advantage over children socialized into a more "restricted linguistic code" characteristic of lower class children. Their highly developed verbal skills in the primary grades, particularly at a time during which the curriculum emphasized language development and the skills in which they excelled, became part of their "cultural capital" (Bourdieu, 1973) which helped define them as gifted. This is supported by the finding that a small proportion scored <130 (or may not have scored >130) at the time of identification although they satisfied the achievement criteria and had teacher support. This suggests that teachers, by taking students' non-cognitive traits into consideration, may have "sponsored" certain students by selecting and rewarding those who manifested the desired pattern of behavioural traits which Bourdieu (1975) defines as critical determinants for academic success. Interestingly enough, students themselves identified some of these traits, best summarized by the "identified gifted" student who said, "It's not ability. It's all attitude". Since the greatest proportion of gifted students were from the new middle class, i.e., the repairers, regulators, disseminators and shapers" (Bernstein, 1975), it appears that in its broadest sense, Bourdieu's hypothesis was validated and that it was these proprietary groups who were the most successful in social reproduction.

C. ACHIEVEMENT

With respect to achievement data, analysis showed that the majority of "identified gifted" and "unidentified gifted" students were high achievers with relatively few scoring <70% in junior or senior high school. Though the overall level of achievement between cohorts was similar at both levels, there was an important difference in the pattern of achievement and the nature of change over the years. Whereas "identified gifted" students tended to be higher achievers in grades 7 and 8, "unidentified gifted" students tended to be higher achievers from grade 9 onwards.

This shift in achievement appeared to be a function of two different patterns of change. "Identified gifted" students slowly but steadily declined each year in junior high school, then showed a substantial drop in mean GPA between grades 9 and 10. "Unidentified gifted" students, on the other hand, appeared to be fairly consistent achievers in junior high school with little change in mean GPA between grades and showing a smaller drop between grades 9 and 10 than "identified gifted" students. Thus, their slightly lower but stable achievement in junior high school, combined with the steady decline of the "identified gifted" students, brought the two groups together in achievement so that by the end of grade 9, "unidentified gifted" students equalled and/or surpassed "identified gifted" students. This particular pattern of change characterized all "identified gifted" and "unidentified gifted" cohorts, thereby questioning the long term benefits of elementary gifted programs.

Achievement for all cohorts was generally lower in senior high school than it was in junior high school, reflected in the smaller proportion scoring >80% and in the larger proportion scoring <70% at the high school level although neither "identified gifted" nor "unidentified gifted" cohorts appeared to have more scoring <70% than the other. For all aggregates, mean GPA's were progressively lower each year in school so that the higher the grade, the lower the mean GPA.

Few differences emerged between gender groups although females tended to have slightly higher GPA's than males, particularly at the junior high school level. Their achievement steadily declined over the years and showed a sharp drop between grades 9 and 10. Males, on the other hand, showed little change in GPA's between grades and a smaller drop between grades 9 and 10, replicating the same pattern of change as for the "unidentified gifted" cohort. The findings from the achievement data, therefore, showed that the majority of gifted students were high achievers with proportionately few scoring <70%. Though this proportion increased two-fold in high school, it never exceeded 13% for any one group in junior high school and it was only in grade 11 and 12 that the proportion reached 25%. Thus, very few students consistently scored <70% in junior and/or senior high school and even fewer (3.5%) appeared to have dropped out of school; however, since this 3.5% was not followed up, it is not known how many actually dropped out of school. Whatever their number, it was extremely small relative to the total gifted population, and in no way, could it be considered disproportionate to other groups in the general student population. This proportion undoubtedly would have been different had a broader definition of giftedness been used; however, because the operationalized definition of giftedness considers gifted students to be those scoring 130+ on an IQ test, it can be concluded that gifted students were not dropping out of school in large numbers.

Therefore, the findings showed that the majority of gifted students, whether or not they had participated in gifted programming, were academically successful and were not early leavers. The finding that "unidentified gifted" students equalled and/or surpassed the achievement of "identified gifted" students in the later grades of school showed very clearly that the majority of gifted students did make it on their own without any special programming. The myth that "GIFTED CHILDREN WILL MAKE IT ON THEIR OWN DESPITE ANY SPECIAL PROGRAMMING" (Miller, 1981:12), was, in fact, the "reality". To this extent, the comment made by one of the interviewees was most appropriate -- "High achievers will do well no matter what school they're in..." and one might add, they will also do well no matter what program they are in.

This is not to suggest that there were no gifted and talented students dropping out of school. Many might well have dropped out of school but they were not the ones whom group IQ tests successfully identified. The myth that gifted and talented students would not make it on their own appears to be just that -- a myth! Some might not make it but if this student population was any indication, then the greatest percentage did. Whether or not they go on to university and succeed in adult life requires further investigation, but insofar as making at the school level, these students certainly had made it.

Thus, the validity of the myth and its accompanying reality statement seems dependent upon the definition of gifted and talented. The problem, therefore, lies not so much in the conceptualization of giftedness as in its operationalization since there is a distinct difference between the theoretical construct and its operationalized definition. Even though the myths and realities refer to gifted and talented students in the broadest conceptual sense, the operationalized definition of gifted and talented makes these myths realities. Identification of gifted and talented students is, and has been, exclusive to high IQ students and it is these same students who are "making it" -- with or without gifted programming. It seems that until the definition of giftedness can be operationalized in such a way that it matches the "theoretical construct", the gap that currently exists between "theory and practice" will continue to exist and the myths will continue to be realities.

In summary, the findings from the analysis of ability, achievement and SES profiles of "identified gifted" and "unidentified gifted" students showed that for this particular gifted student population, all three myths were closer to reality than to myth. There were some gifted students who were not high SES and some who were not academically successful; however, their proportion relative to those who were successful, was small. But whether or not their low achievement can be attributed to a lack of gifted programming is doubtful, since it appears from the interviews that low achievement stemmed more from a combination of psychological and sociological factors than from a lack of programming, albeit pedagogical factors certainly played an important role in their poor achievement. If the lack of gifted programming and/or its continuation into junior and senior high school had been the cause of low achievement, then there would have been more gifted students, particularly in the "unidentified gifted" cohort, achieving poorly. Yet they did not have any more scoring <70% than the "identified gifted" cohort and they equalled and/or surpassed their general level of achievement. It appeared that low achievement was caused by factors other than pedagogical factors and that the implementation of gifted programming would not have been able to circumvent them.

Some of these other factors became evident through the interviews with a small sample (N=59) of high achievers and low achievers. Perhaps the major difference which emerged between them was the degree to which they conformed to adult expectations. Though both were well aware of the expectations of the student role, low achievers were less willing than high achievers to play the game. As one male high achiever said, "Most students play the role because they have to ..." and in this sense, Keddie's (1971) argument that success in school involved not only ability but also the willingness to accept school imposed rules and situations was supported. The students' willingness to conform seemed to be related to their future goals and general attitudes towards school. Over 90% of the high achievers had university ambitions and were planning professional careers whereas only 26% of the low achievers had definite university plans. The majority were unsure of their future but the few who were sure, were planning vocational careers. Thus, for them, school was seen more as an "end" in itself, whereas for high achievers it was seen as a "means to an end".

Another important difference which emerged between high achievers and low achievers was the value placed on peer relationships. They were important to both but low achievers placed a higher value on them than high achievers, the latter equally valuing school and peer relationships. Female low achievers, in particular, indicated their social lives were more important than school and that "being the best" and getting the highest grades were not that important. It was more important to be "well balanced" and to "stay in the middle...". Grades were not as highly valued as they were by high achievers, particularly since obtaining high grades was "second rate to knowing the stuff".

Female low achievers also indicated a dislike of highly competitive situations, feeling they did not want to be constantly challenged and stimulated because there would be more pressure to be better. As one said, "I like to do well at my own speed. I don't want to be placed in an atmosphere where I'm forced to compete or do better".

Low achievers also had other interests, hobbies and/or jobs which presented competing pressures and sometimes, conflicting values. Quite a number indicated a preference for their jobs because they felt they had more freedom and responsibility than they had in school. The rewards, as well, were more meaningful. But some who had active social lives, took part in school clubs, teams and school organizations found little time or desire to devote to their studies. Thus, their low achievement appeared to stem from conflicting priorities and values rather than from a lack of challenge in school.

There were still others who could best be categorized as "creative intellectuals" who valued school but who resisted established ways of doing things and challenged teacher expectations. They appeared self-directed and saw themselves as successful -- not in school work but rather in self-initiated projects. Their non-conformity and lack of success in school was the result of their unwillingness to submit to someone else's frame of reference, their low achievement being merely a reflection of their intellectual defiance.

Whether or not gifted programming would have made a difference in the level of their achievement is unknown.

What is important is that only 1/3 of them indicated they would have participated if such programming had been offered. This compared to 2/3 of the high achievers who felt they would have participated. Even though low achievers found the regular classroom work tedious and boring, they were willing to forego the extra challenge and faster pace of high ability programs for a variety of personal reasons. Some rejected them because of the extra demands and pressures such programs would engender; others rejected them for their competitiveness and "gamemanship". Still others rejected them for the social "stigma" attached while others felt they would not be capable enough to handle them. Then, of course, there was the sacrifice of time. No longer would they be able to spend as much time as they were used to spending with their friends or on their hobbies. They would have to relinquish some in order to keep up with their studies. Whatever their reason, it was quite likely they would not have participated in gifted programs had they been offered since it was these very reasons which lay at the root of their low achievement in the regular program.

In light of these various findings, it appears that there are a number of assumptions which gifted program advocates make that are rather presumptive and contradictory to the expressed views of gifted students. Firstly, they assume that students measure success and achievement in the same way, yet many indicated that getting the highest marks was "second rate to knowing the stuff".

Secondly, they assume that all bright students should be getting high marks and going to university yet many did not so aspire. They had their own definitions of success and achievement and felt thwarted by adult demands and expectations. Their resistance and challenge to these expectations were clearly revealed by low achievers who not only demonstrated a continual assessment of, and negotiation with, their social environment, but also an active role in the definition of their ultimate level of achievement.

If the difference between high achievers and low achievers lies solely in the degree of conformity to adult and/or societal expectations, then those who have the "correct attitude" and commitment to academic success will undoubtedly continue to achieve whether or not they have access to special programming. Similarly, those students who have not internalized nor accepted the social goals and/or the means will undoubtedly continue to resist these expectations, and continue to receive poor grades in the process. In this context, Kane's (1978) summation seems most appropriate --

> "The ungifted and untalented logic that a percentage number should quantitatively define the population has given rise to confusion and a "hunt and pick" mentality among educators that is predestined to create a narrowly defined -- and often misdefined -- elite group of students. The hard reality is that only those students who excel at the school games of Memory, Verbal Fluency and Testing will be picked to join that elite

corps" (1978:27).

And that "elite corps", as the findings of this study have shown, are those whose parents are already part of that corps, themselves having excelled in the "school games of Memory, Verbal Fluency and Testing". These findings, therefore, not only lend support to Husen's (1975) hypothesis that "the ability to operate with verbal and numerical symbols" occupies the "highest position of the prestige scale, and consequently is the criterion for intelligence" in today's complex technological society, but also attest to the growing power of the intelligentsia in having its definitions of intelligence and giftedness accepted and legitimized.

FOOTNOTES

CHAPTER I

1. According to Grossi (1980:12), the first serious attempt to provide programming for gifted and talented students was in the late 1950's when Congress passed The National Defense Education Act and the National Science Foundation Program. The intent of these acts was essentially to "increase America's technological resources and capacity" (1980:16) and federal monies were made available for the development of Honors Programs, innovative math and science curricula and other administrative efforts which would increase the supply of scientists and mathematicians. The impetus for this Act was the launching of the first satellite by the Russians, giving rise to the belief America was lagging behind Russia in the race for world power. American military leaders blamed the educational system for not producing enough scientists and mathematicians and made a plea to schools that they raise their standards of science education and produce more scientific expertise for the nation's benefit. Thus, the focus of "gifted" programming was on science instruction for those talented and/or demonstrating scientific/mathematical abilities.

Then in 1969, Public Law 91-230, Amendments to the Elementary and Secondary Education Act, was passed by the American Congress in response to demands for programming for gifted and talented students. State and local school districts could use funds from Title III (Supplementary Educational Centers and Services, Guidance, Counseling and Testing) and Title V (Strengthening State and Local Educational Agencies) federal monies. As part of P.L. 91-230, Marland was asked by Congress to investigate the needs of the gifted and talented in the States and to indicate how the government could meet these needs. Marland found that federal assistance for such programs was not being used to the extent expected under Title III and IV monies and that only a small proportion of gifted and talented students were receiving special educational services. He found also that administrators did not see provision of services to gifted and talented as a high priority. He recommended that programs for gifted and talented students be federally encouraged and supported. The adoption of the USOE (United States Office of Education) definition of "Gifted and Talented" students (1972) and the establishment of the Office of Gifted and Talented were the outcomes of his report.

2. All three provinces, Ontario, Saskatchewan and British Columbia, have legally recognized the gifted and talented students as "special needs " children having the right to an appropriate education commensurate with their abilities.

In 1980, Ontario passed Bill 82 making programming for the gifted and talented mandatory although school districts had until 1985 to implement programs.

Ontario's definition of gifted and talented was a modified version of the United States Office of Education definition (1978) and read as follows:

> "The province of Ontario has accepted the term "gifted" as one that refers to pupils of a superior degree of general intellectual ability. Such pupils are so advanced of the regular class population that they require special provisions beyond the normal program. The term "talented" refers to those pupils who excel in an area such as music, visual arts, drama, athletics, or in specific academic areas. Gifted/talented children may be identified within one of the following groups:
>
> . intellectual - academically outstanding
> . aesthetic - outstanding in the creative arts
> . kinesthetic - outstanding in human relations and leadership ability
>
> In spite of the differences noted in the definitions reported in the literature, each refers to 2 to 3% of the population."

In the spring of 1980, British Columbia issued a policy statement to serve two functions:

. to ensure provisons of educational opportunities appropriate to the needs and abilities of a significant number of students through "enrichment" and/or gifted education

. to provide the financial resources to encourage the implementation of appropriate provision in every school district.

British Columbia's definition of "gifted and talented" students was essentially the same as Ontario's except it added the following statement:

> "Obviously there is much overlapping. The intellectually gifted may also be socially talented; the musically talented may also be intellectually and mathematically gifted. The academically talented are usually intellectually gifted, although not all intellectually gifted are academically talented.

> Usually a high degree of talent in one or more areas is accompanied by intellectual giftedness." (Enrichment and Gifted Education Resource Book, British Columbia: Ministry of Education,1981:7)

Legislation is still pending in British Columbia. Though not mandated, policies for programming have been established and set out in the Ministry of Education's Resource Book(1981).

In 1981, Saskatchewan established a policy stating the following:

> "The Department of Education is committed to a philosophy of education which recognizes the uniqueness of each student and his/her right to appropriate educational opportunities. To encourage educational practices which reflect this policy, the Department of Education firmly endorses the concepts and practices embraced by a non-graded continuous progress approach to schooling.
>
> In accordance with this position,the Department of Education will assist school divisions in meeting the needs of gifted students by: providing inservice consultative support; enhancing newly developed provincial curricula; identifying resource materials; providing bursaries for practising teachers; and encouraging the development of school board policy. "

Saskatchewan's definition of gifted and talented reads:

> "Giftedness is a characteristic of students who have demonstrated high performance or show potential in one of the following areas: specific academic aptitutde, reasoning and divergent thinking, visual or performing arts, psychomotor ability.
>
> . Specific academic aptitude refers to the ability to perform well in a particular area or areas.
>
> . Reasoning and Divergent thinking ability refers to advanced insight, outstanding imagination, intense creative reasoning ability,\ability in problem solving.
>
> . Visual or Performing Arts ability refers to outstanding ability indicated through affective as well as cognitive performance

in areas such as art, music, dance, drama, speech and language.

- Psychomotor ability refers to demonstrated high ability or attainment in the gross or fine manipulative activities.

3. There is considerably more activity in the United States than in Canada with respect to the legislation of programming for gifted and talented students. According to Clark (1983), 84% (or 43) of the states have some type of written policy regarding programming with definitions included in 74.5% (or 38) of the policy statements. Of the latter, 30 have specified identification procedures. Only 10 states, however, have officially approved state plans. Recent budgetary cut-backs have reduced federal support as well as abolished the Office of Gifted and Talented. As Clark (1983:143) says, "... in the 80s the United States federal government has all but abolished its role in supporting or even encouraging the appropriate education of its most able children..."; State departments still exist, providing support for programming for the gifted and talented at the state and local level.

4. In the article, "Three Myths? The Over-representation of the Gifted Among Drop-outs, Delinquents and Suicides", Lajoie and Shore (1981) conclude that the "gifted" are not over-represented in the drop-out, delinquent and/or suicide statistics. They do concede, however, that this conclusion may be subject to change with more rigorous methodologies and broader definitions of "gifted and talented". Research studies of the past have been plagued by a variety of methodological problems -- vagueness in definition, variation in age and grade level of students, poor control over demographic features and lack of follow up on the permanence of having dropped out -- preventing clear cut and definitive conclusions (see Chapter II, pp. 72-76).

With respect to delinquency, they state that "... the exisiting literature on delinquency suggests underrepresentation of the gifted" and with respect to suicide,

> "Suicide statistics and theories about the cause of suicide are the most accomodating to the idea of overrepresentation of the gifted, especially at college age. No major theory of suicide includes high ability as a contributor but such might make people more aware of the world's frustrations, the limitations on human ability to solve these problems, and more exposed to the personal pressures of certain conditions or undertakings such as graduate studies at a

> time in their lives when so many other needs compete for their energy." (1981:141)

It appears, then, that the issue of definition clouds present and past research making definitive conclusions difficult. However, it is clear that other factors besides high ability result in students dropping out, becoming delinquent and/or suicidal, and that "giftedness" alone is not the determining factor. Terman, himself, found this in his group of gifted individuals in his 25 year follow-up study. As he concluded,

> "The mortality rate of the group to date, is below that of the group to date, is below that of the generality of corresponding age. The same is true of the insanity rate. The incidence of suicide approaches more closely that of the generality, but the incidence of arrests and imprisonments is extremely low." (Terman 1945:223)

CHAPTER 2

1. The *a posteriori* position with respect to giftedness is suggested in the State of Hawaii's definition (1977) which reads as follows:

> "In the final analysis, it would seem that one cannot be judged truly gifted until after the fact. Only when something has been produced or achieved -- be it a symphony, an idea, a performance, or even the accumulation of great wealth -- and society has judged that product or achievement a unique or outstanding one, can it be said in retrospect that it was the product or achievement of a gifed mind. Only in occasional instances do school age youth reach such levels of demonstrated accomplishment" (Department of Education, State of Hawaii).

2. Betts(1985) develops Drews (1963) typology further by indicating that there is no typical gifted learner but rather 5 diverse types -- achievers, rebels, underground, handicapped and autonomous. For an elaboration of each, see Betts, George, *The Lifelong Notebook* and *Journey into Self*, both published by Autonomous Learning Publications and Specialists, 1985.

CHAPTER 5

1. As the percentages in Tables 5.5, 5.6 and 5.7 showed, few of the fathers had low SES occupations. The "identified

gifted" sub-groups had a total of 62 fathers with SES# 4, SES# 5 and SES# 6 occupations. This compared to 32 fathers of UG6 students and 62 fathers of UG9 students. Of these, the majority held occupations classified as SES# 4, i.e., salesmen, shop foreman and superintendents, electricians, machinists, bill collectors, postal clerks, ironworkers and linesmen.

The next largest group occupied semi-skilled positions (SES#5), i.e., butchers, mechanics, welders, shippers, busdrivers, pipe inspectors, packers and railroad yardmasters. Though these trades were represented in the sample, seldom was there more than one in that particular trade. The only trades having more than one representative were welders, mechanics and butchers.

The last group of fathers, albeit very small, held unskilled occupational jobs, i.e., laborer, truckdriver, carpenter, taxidriver, waiter, barber, gasfitter, hardwareman, bartender, caretaker, cook, bricklayer and serviceman. All but truckers (n=7), cooks (n=6) and carpenters (n=6) had only one representative.

Thus, even though most of the occupations were represented in this sample of "identified gifted" and "unidentified gifted" students, few of the skilled, semi-skilled and unskilled laborers contributed to the "gifted" student ranks.

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APPENDIX 1

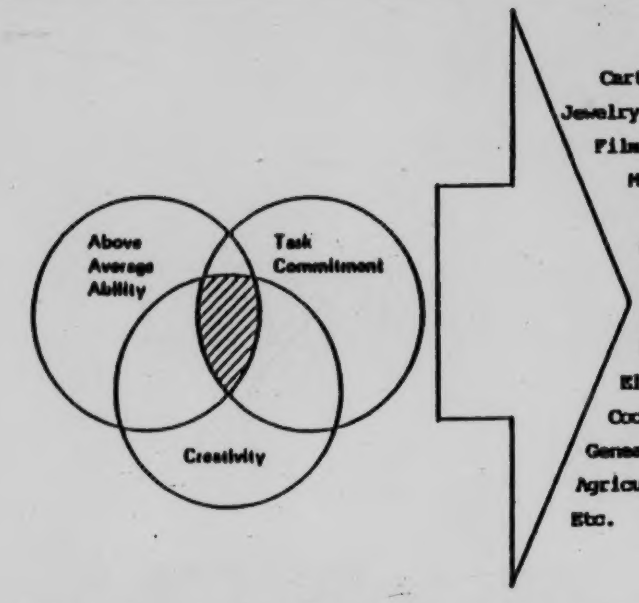
RENZULLI'S THREE RING CONCEPTION OF GIFTEDNESS (1978)

Renzulli's Three Ring Conception of Giftedness

Graphic Representation of the
Definition of Giftedness

GENERAL PERFORMANCE AREAS

Mathematics Visual Arts Physical Sciences
Philosophy Social Sciences Law Religion
Language Arts Music Life Sciences Movement Arts



SPECIFIC PERFORMANCE AREAS

Cartooning Astronomy Public Opinion Polling
Jewelry Design Map Making Choreography Biography
Film Making Statistics Local History Electronics
Musical Composition Landscape Architecture
Chemistry Demography Microphotography
City Planning Pollution Control Poetry
Fashion Design Weaving Play Writing
Advertising Costume Design Meteorology
Puppetry Marketing Game Design Journalism
Electronic Music Child Care Consumer Protection
Cooking Ornithology Furniture Design Navigation
Genealogy Sculpture Wildlife Management Set Design
Agricultural Research Animal Learning Film Criticism
Etc. Etc. Etc. Etc. Etc. Etc.

*This arrow should be read as "...brought to bear upon..."

SOURCE: Renzulli, Joseph P., "What Makes Giftedness? Reexamining a Definition", Phi Delta Kappan, November, 1978.

APPENDIX 2

CHARACTERISTICS OF GIFTED AND TALENTED STUDENTS

TABLE 1.1. Differential Cognitive (Thinking) Characteristics of the Gifted.

Cognitive development rests on the analysis, integration, and evaluation of a vast quantity of experiences of the environment and understandings of those experiences. Educational programs should provide for an array of such experiences and encourage the processes of understanding, analyzing, organizing, integrating, and evaluating. Qualitatively different planning for the gifted implies recognition of the ways in which their differential cognitive characteristics affect this process.

Differentiating Characteristics	Examples of Related Needs	Possible Concomitant Problems
extraordinary quantity of information, unusual retentiveness.	to be exposed to new and challenging information of the environment and the culture, including aesthetic, economic, political, educational, and social aspects; to acquire early mastery of foundation skills.	boredom with regular curriculum; impatience with "waiting for the group."
advanced comprehension.	access to challenging curriculum and intellectual peers.	poor interpersonal relationships with less able children of the same age; adults considering child "sassy" or "smart alec" a dislike for repetition of already understood concepts.
unusually varied interests and curiosity.	to be exposed to varied subjects and concerns; to be allowed to pursue individual ideas as far as interest takes them.	difficulty in conforming to group tasks; overextending energy levels, taking on too many projects at one time.
high level of language development.	to encounter uses for increasingly difficult vocabulary and concepts.	perceived as a "show off" by children of the same age.

SOURCE: Barbara Clark, Growing Up Gifted, Charles E. Merrill Publishing Company, Columbus, Ohio, 1979. pp. 23-33.

TABLE 1.1. Differential Cognitive (Thinking) Characteristics of the Gifted. (Continued)

Differentiating Characteristics	Examples of Related Needs	Possible Concomitant Problems
high level of verbal ability.	to share ideas verbally in depth.	dominate discussions with information and questions deemed negative by teachers and fellow students; use of verbalism to avoid difficult thinking tasks.
unusual capacity for processing information.	to be exposed to ideas at many levels and in large variety.	resents being interrupted; perceived as too serious; dislike for routine and drill.
accelerated pace of thought processes.	to be exposed to ideas at rates appropriate to individual pace of learning.	frustration with inactivity and absence of progress.
flexible thought processes.	to be allowed to solve problems in diverse ways.	seen as disruptive and disrespectful to authority and tradition.
comprehensive synthesis.	to be allowed a longer incubation time for ideas.	frustration with demands for deadlines, and for completion of each level prior to starting new inquiry.
early ability to delay closure.	to be allowed to pursue ideas and integrate new ideas without forced closure or products demanded.	if products are demanded as proof of learning, will refuse to pursue an otherwise interesting subject or line of inquiry.
heightened capacity for seeing unusual and diverse relationships.	to mess around with varieties of materials and ideas.	frustration at being considered "off the subject" or irrelevant in pursuing inquiry in areas other than subject being considered; considered odd or weird by others.

ability to generate original ideas and solutions.	to build skills in problem solving and productive thinking; opportunity to contribute to solution to meaningful problems.	difficulty with rigid conformity; may be penalized for not following directions; may deal with rejection by becoming rebellious.
early differential patterns for thought processing (e.g., thinking in alternatives, abstract terms, sensing consequences, making generalizations).	to be exposed to alternatives, abstractions, consequences of choices, and opportunities for drawing generalizations and testing them.	rejection or omission of detail; questions generalizations of others which may be perceived as disrespectful behavior.
early ability to use and form conceptual frameworks.	to use and to design conceptual frameworks in information gathering and problem solving; to seek order and consistency; to develop a tolerance for ambiguity.	frustration with inability of others to understand or appreciate original organizations or insights; personally devised systems or structure may conflict with procedures of systems later taught.
an evaluative approach to themselves and others.	to be exposed to individuals of varying ability and talent, and to varying ways of seeing and solving problems; to set realistic, achievable short-term goals; to develop skills in data evaluation and decision-making.	perceived by others as elitist, conceited superior, too critical; may become discouraged from self-criticism, can inhibit attempting new areas if fear of failure is too great; seen by others as too demanding, compulsive; can affect interpersonal relationships as others fail to live up to standards set by gifted individual; tolerant of stupidity.
persistent, goal-directed behavior.	to pursue inquiries beyond alloted time spans, to set and evaluate priorities.	perceived as stubborn, willful, uncooperative.

TABLE 1.2. Differential Affective (Feeling) Characteristics of the Gifted.

High levels of cognitive development do not necessarily imply high levels of affective development. The same heightened sensitivities that underlie gifted intelligence can contribute to an accumulation of information about emotions that the student needs to process. The affect-based information comes from sources within and without the child. Gifted children need to learn that their cognitive powers applied to this material will help them to make sense of their world. Their educational program must provide opportunities to bring emotional knowledge and assumptions to awareness, and to apply verbal ability and inquiry skills in the service of affective development.

The early appearance of social conscience that often characterizes gifted children signals an earlier need for development of a value structure and for the opportunity to translate values into social action. This can occur in the context of the society of the classroom and should then be extended into the larger world, as appropriate to the child's increasing competence and widening concerns.

Differentiating Characteristics	Examples of Related Needs	Possible Concomitant Problems
large accumulation of information about emotions that has not been brought to awareness.	to process cognitively the emotional meaning of experience, to name one's own emotions, to identify one's own and other's perceptual filters and defense systems, to expand and clarify awareness of the physical environment, to clarify awareness of the needs and feelings of others.	information misinterpreted affecting the individual negatively.
unusual sensitivity to the expectations and feelings of others.	to learn to clarify the feelings and expectations of others.	unusually vulnerable to criticism of others, high level of need for success and recognition.

TABLE 1.2. Differential Affective (Feeling) Characteristics of the Gifted. (Continued)

Differentiating Characteristics	Examples of Related Needs	Possible Concomitant Problems
high expectations of self and others, often leading to high levels of frustration with self, others, and situations.	to learn to set realistic goals and to accept set-backs as part of the learning process.	discouragement and frustration from high levels of self-criticism; problems maintaining good interpersonal relations as others fail to maintain high standards imposed by gifted individual; immobilization of action due to high levels of frustration resulting from situations which do not meet expectations of excellence.
strong need for consistency between abstract values and personal actions.	to find a vocation that provides opportunity for actualization of student's personal value system, as well as an avenue for his or her talents and abilities.	frustration with self and others leading to inhibited actualization of self and interpersonal relationships.
advanced levels of moral judgment.	to receive validation for non-average morality.	intolerance of and lack of understanding from peer group, leading to rejection and possible isolation.

keen sense of humor — may be gentle or hostile.	to learn how behaviors affect the feelings and behaviors of others.	use of humor for critical attack upon others resulting in damage to interpersonal relationships.
heightened self-awareness, accompanied by feelings of being different.	to learn to assert own needs and feelings nondefensively, to share self with others, for self-clarification.	isolate self, resulting in being considered aloof, feeling rejected; perceive difference as a negative attribute resulting in low self esteem and inhibited growth emotionally and socially.
idealism and sense of justice which appear at an early age.	to transcend negative reactions by finding values to which he or she can be committed.	attempt unrealistic reforms and goals with resulting intense frustration. (Suicides result from intense depression over issues of this nature.)
earlier development of an inner focus of control and satisfaction.	to clarify personal priorities among conflicting values. to confront and interact with the value system of others.	difficulty conforming; reject external validation and choose to live by personal values which may be seen as a challenge to authority or tradition.
unusual emotional depth and intensity.	to find purpose and direction from personal value system. to translate commitment into action in daily life.	unusual vulnerability; problem focusing on realistic goals for life's work.

TABLE 1.3. Differential Physical (Sensation) Characteristics of the Gifted.

People of highly developed intellectual ability may be unusually vulnerable to a characteristic "Cartesian split" between thinking and being; a lack of integration between mind and body. During school years, when the gifted student is experiencing large discrepancies between physical and intellectual development, the school may be unintentionally encouraging the student to avoid physical activity. If a child's intellectual peers are physically more advanced so as to make him or her feel physically inadequate, while physical peers are less intellectually stimulating and not within his or her friendship group, the usual competitive playground games may be neither inviting nor satisfying to the gifted child. If the physical development of the gifted child is to be encouraged, programs should provide experiences which develop integration between mind and body in children with nonnormative development patterns.

Differentiating Characteristics	Examples of Related Needs	Possible Concomitant Problems
unusual quantity of input from the environment through a heightened sensory awareness.	to engage in activities that will allow integration and assimilation of sensory data.	attention moving diffusely toward many areas of interest; over-expenditure of energy due to lack of integration; seeming disconnectedness.
unusual discrepancy between physical and intellectual development.	to appreciate their physical capacities.	result in gifted adults who function with a mind/body dichotomy; gifted children who are only comfortable expressing themselves in mental activity resulting in a limited development both physically and mentally.
low tolerance for the lag between their standards and their athletic skills.	to discover physical activities as a source of pleasure; to find satisfaction in small increments of improvement; to engage in non-competitive physical activites.	refuse to take part in any activities where they do not excel; limiting their experience with otherwise pleasurable, constructive physical activities.
"Cartesian split" - can include neglect of physical well-being and avoidance of physical activity.	to engage in activities leading to mind/body integration; to develop a commitment to own physical well-being; to extend this concern to the social and political realm.	detrimental to full mental and physical health, inhibiting to the development of potential for the individual.

TABLE 1.4 Differential Intuitive Characteristics of the Gifted

This area of the human experience is involved in initiating or insightful acts and in creative activity. While this is the least well-defined area of human endeavor, it is probably the area that promises the most for the continuance and fulfillment of humankind. All other areas provide support for and are supported by this area of function. As each area evolves to high levels, more of the intuitive and creative are available.

Differentiating Characteristics	Examples of Related Needs	Possible Concomitant Problems
early involvement and concern for intuitive knowing and metaphysical ideas and phenomena.	opportunities to engage in meaningful dialogue with philosophers and others concerned with these ideas; to become aware of own intuitive energy and ability; guidance in developing and using intuitive energy and ability.	ridiculed by peers; not taken seriously by elders; considered weird or strange.
open to experiences in this area; will experiment with psychic and metaphysical phenomena.	guidance in becoming familiar with, analyzing, and evaluating such phenomena; should be provided a historical approach.	can become narrowly focused toward ungrounded belief systems.
creativity apparent in all areas of endeavor.	guidance in evaluating appropriate uses of creative efforts; encouragement for continued development of creative abilities.	seen as deviant; becomes bored with more mundane tasks; may be viewed as troublemaker.

TABLE 1.5. Differential Societal Characteristics of the Gifted.

Society has unique needs for the services of unique individuals. While we would not wish that education for the gifted focus on societal needs at the expense of the needs of these individuals, neither can education of the gifted disregard the importance of their mature social roles. Gifted students need direction in exploring all the opportunities society has to offer them and the ways of contributing what they have to offer to society. They need conceptual frameworks to organize their experience of society (e.g., Maslow's (1968) hierarchy of needs), and they need opportunities to develop those skills which will make it possible for them to affect society. Educational programs should provide for the options, conceptual frameworks, and skills which will underlie effective social involvement of gifted students.

Differentiating Characteristics	Examples of Related Needs	Possible Concomitant Problems
Differential Societal Characteristics of the Gifted strongly motivated by self-actualization needs.	opportunities to follow divergent paths, pursue strong interests, help in understanding the demands of self-actualization.	frustration of not feeling challenged; loss of unrealized talents.
advanced cognitive and affective capacity for conceptualizing and solving societal problems.	encounters with social problems, awareness of the complexity of problems facing society, conceptual frameworks for problem-solving procedures.	tendency for "quick" solutions not taking into account the complexity of the problem; young age of gifted person often makes useable alternatives suspect; older more experienced decision makers may not take the gifted person seriously.
Differential Social Expectations for the Gifted leadership.	understanding of various leadership steps and practice in leadership skills.	lack of opportunity to use this ability constructively may result in its disappearance from child's repertoire or its being turned into a negative characteristic, e.g., gang leadership. loss to society if these traits are not allowed to develop with guidance and opportunity for meaningful involvement.
solutions to social and environmental problems.	meaningful involvement in real problems.	
involvement with the meta-needs of society (e.g., justice, beauty, truth).	exploration of the highest levels of human thought; application of this knowledge to today's problems.	

APPENDIX 3

CORRELATIONS BETWEEN LORGE THORNDIKE IQ'S AND ACHIEVEMENT TEST ADMINISTERED APPROXIMATELY THE SAME TIME

CORRELATIONS BETWEEN LORGE THORNDIKE IQ'S AND ACHIEVEMENT TESTS ADMINISTERED AT APPROXIMATELY THE SAME TIME (LORGE THORNDIKE TECHNICAL MANUAL, P.16)

	Lorge-Thorndike Test			*Achievement Test*	
	Battery	*Grade Tested*	*N*		*r*
A	**Verbal**	**4**	**344**	**Iowa Tests of Basic Skills:**	
				(1) Reading Comprehension	**.776**
				(2) Vocabulary	**.790**
				(3) Work-Study	**.752**
				(4) Language	**.726**
				(5) Arithmetic	**.739**
				(6) Composite Battery	**.839**
B	**Nonverbal**	**4**	**344**	**Iowa Tests of Basic Skills:**	
				(1) Reading Comprehension	**.580**
				(2) Vocabulary	**.608**
				(3) Work-Study	**.679**
				(4) Language	**.576**
				(5) Arithmetic	**.663**
				(6) Composite Battery	**.683**
C	**Verbal**	**5**	**639**	**Stanford Elementary, Reading Ave.**	**.89**
	Verbal	**5**	**639**	**Stanford Elementary, Arith. Ave.**	**.81**
	Nonverbal	**5**	**639**	**Stanford Elementary, Reading Ave.**	**.71**
	Nonverbal	**5**	**639**	**Stanford Elementary, Arith. Ave.**	**.75**
D	**Verbal**	**6**	**171**	**Stanford Intermed., Reading Ave.**	**.87**
	Verbal	**6**	**171**	**Stanford Intermed., Arith. Ave.**	**.76**

APPENDIX 4

LETTER OF CONSENT

Department of Educational
Foundations
University of Alberta
Edmonton, Alberta
May 27, 1983

Dear Mr. and Mrs. ______,

I am conducting a research study designed to identify and examine achievement patterns of high ability students within the ____________ school system. The study is being conducted as part of my doctoral Program at the University of Alberta. The study is approved by the University, the _______ school system and Mr. _________, Principal of _______ High School.

One part of the study involves interviewing a random sampling of grade eleven and twelve students at the various high schools in order to find out what students think about school, its organization, programming, curriculum and their own achievements. I would like to talk to _______ about his/her perceptions about school in its many dimensions.

Interviews will be scheduled during the student's instructional day, if at all possible during one of their spares, for approximately 35-40 minutes. They will be held at the school within the next week and school personnel will inform the students of the scheduled time and place of interview.

I would appreciate having _______'s cooperation in the study. If ________ is willing to participate and you are in agreement, would you please sign the consent form below and have it returned to the school's General Office, c/o Mr. _______ as soon as possible.

Thank you for your cooperation.

Sincerely,

Marian A. Stelmaschuk

I/We agree to __________'s participation in the study on student achievement being conducted by Marian Stelmaschuk.

____
Signature

APPENDIX 5

TABLE OF OCCUPATIONAL GROUPS CONTRIBUTING TO GIFTED STUDENT POPULATION IN DISTRICT Y

7

BREAKDOWN OF FATHERS' OCCUPATIONS FOR "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" AGGREGATES

OCCUPATION	IG (N=289)	UG6 (N=108)	UG9 (N=268)
Professors	13.8%	10.2%	9.3%
Doctors	5.2%	5.6%	6.7%
Lawyers	3.5%	2.8%	2.6%
Dentists	1.0%	2.8%	.8%
Pharmacists	.3%	--	--
Psychologists	.3%	--	.4%
Scientists	1.7%	1.9%	1.9%
Architects	.3%	.9%	.4%
Planner	--	.9%	--
Editor/writer	--	.9%	--
Engineers	6.9%	3.7%	3.7%
Accountants/Bankers	5.2%	4.6%	4.9%
Teachers	8.0%	9.3%	7.8%
Counsellors	1.4%	--	--
Social Workers	--	.9%	.4%
Directors/ Administrators	2.4%	3.7%	3.4%
Managers	15.2%	10.2%	16.0%
Presidents/Owners	3.1%	1.9%	7.5%
Researchers	.3%	--	.4%
Clergy/Ministers	1.7%	2.8%	1.9%
Contractors	.7%	--	.4%
Police/Regulatory Officers	.7%	.9%	.8%
Realtors	.7%	--	.4%
Adjuster/Estimator	.7%	--	--
Firemen	.7%	--	.4%
Technicians	1.0%	2.8%	2.2%
Civil Servants	1.7%	1.9%	1.1%
Newsmen/Media	.3%	--	.4%
Funeral Directors	.3%	--	--
Insurance Agents	--	.9%	--
Statisticians	--	.9%	--
Central Officers	--	1.9%	.4%
Surveyors	--	.9%	.8%
Inspectors	--	--	.8%
Instructors (Driving)	--	--	.4%
Nurses	.3%	--	--

APPENDIX 6

DISTRIBUTION TABLES OF GRADE POINT AVERAGES FOR "IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" GRADE 10, 11 AND 12 STUDENTS

TABLE 6.1

DISTRIBUTION OF GRADE POINT AVERAGES FOR GRADE 10 IDENTIFIED GIFTED (10IG)

GPA CATEGORY	GR7 GPA N=130	GR8 GPA N=131	GR9 GPA N=133	GR10 GPA N=120
90% +	9 (6.9%)	12 (9.2%)	18 (13.5%)	4 (3.3%)
80% - 89%	82 (63.1%)	69(52.7%)	62 (46.6%)	45 (37.5%)
70% - 79%	32 (24.6%)	37 (28.2%)	33 (24.8%)	46 (38.3%)
60% - 69%	6 (4.6%)	11 (8.4%)	13 (9.8%)	15 (12.5%)
50% - 59%	1 (.7%)	1 (.8%)	6 (4.5%)	9 (7.5%)
LOWER	0	1 (.8%)	1 (.8%)	1 (.8%)
MEAN	82.1%	81.0%	80.0%	76.3%
MEDIAN	83.4%	82.5%	81.8%	78.1%
S.D.	6.5	7.9	9.9	10.3

TABLE 6.1.1

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 10 IDENTIFIED GIFTED (10IG) FEMALES

GPA CATEGORY	GR7 GPA N=76	GR8 GPA N=75	GR9 GPA N=76	GR10 GPA N=67
90% +	7 (9.2%)	9 (12.0%)	12 (15.8%)	4 (5.9%)
80% - 89%	51 (67.1%)	38 (50.7%)	38 (50.0%)	23 (34.3%)
70% - 79%	16 (21.1%)	23 (30.7%)	18 (23.7%)	27 (40.3%)
60% - 69%	2 (2.6%)	5 (6.7%)	6 (7.9%)	7 (10.4%)
50% - 59%	0	0	1 (1.3%)	5 (7.5%)
LOWER	0	0	1 (1.3%)	1 (1.5%)
MEAN	83.3%	82.3%	81.4%	76.7%
MEDIAN	84.3%	82.8%	82.5%	77.3%
S.D.	5.9	6.8	9.1	10.7

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 10 IDENTIFIED GIFTED (10IG) MALES

GPA CATEGORY	GR7 GPA N=54	GR8 GPA N=56	GR9 GPA N=57	GR10 GPA N=53
90%+	2 (3.7%)	3 (5.3%)	6 (10.5%)	0
80% - 89%	31 (57.4%)	31 (54.4%)	24 (42.1%)	22 (41.5%)
70% - 79%	16 (29.6%)	14 (24.6%)	15 (26.3%)	19 (35.8%)
60% - 69%	4 (7.4%)	6 (12.3%)	7 (12.3%)	8 (15.1%)
50% - 59%	1 (1.9%)	1 (1.8%)	5 (8.8%)	4 (7.5%)
LOWER	0	1 (1.8%)	0	0
MEAN	80.5%	79.3%	78.2%	75.9%
MEDIAN	81.7%	81.3%	80.5%	79.0%
S.D.	6.9	9.04	10.8	10.03

TABLE 6.2

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG6)

GPA CATEGORY	GR7 GPA N=46	GR8 GPA N=46	GR9 GPA N=49	GR10 GPA N=46
90%+	3 (6.5%)	4 (8.7%)	6 (12.2%)	4 (8.7%)
80% - 89%	25 (54.3%)	24 (52.2%)	21 (42.9%)	16 (34.8%)
70% - 79%	14 (30.4%)	11 (23.9%)	14 (28.6%)	14 (30.4%)
60% - 69%	4 (8.7%)	6 (13.0%)	6 (12.2%)	9 (19.6%)
50% - 59%	0	1 (2.2%)	2 (4.1%)	3 (6.5%)
LOWER	0	0	0	0
MEAN	80.4%	79.4%	79.2%	77.4%
MEDIAN	81.3%	81.2%	81.3%	78.5%
S.D.	6.4	8.1	9.6	10.1

TABLE 6.2.1

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG6) FEMALES

GPA CATEGORY	GR7 GPA N=26	GR8 GPA N=26	GR9 GPA N=27	GR10 GPA N=28
90%+	2 (7.7%)	3 (11.5%)	4 (14.8%)	2 (7.1%)
80% - 89%	16 (61.5%)	16 (61.5%)	13 (48.1%)	10 (35.7%)
70% - 79%	8 (30.8%)	6 (23.1%)	8 (29.^%)	11 (39.3%)
60% - 69%	0	0	2 (7.4%)	4 (14.3%)
50% - 59%	0	1 (3.8%)	0	1 (3.6%)
LOWER	0	0	0	0
MEAN	82.1%	81.5%	81.5%	78.6%
MEDIAN	81.7%	81.7%	81.8%	78.1%
S.D.	4.9	7.1	7.5	8.8

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 10 UNIDENTIFIED GIFTED (10UG6) MALES

GPA CATEGORY	GR7 GPA N=20	GR8 GPA N=20	GR9 GPA N=22	GR10 GPA N=18
90%+	1 (5.0%)	1 (5.0%)	2 (9.1%)	2 (11.1%)
80% - 89%	9 (45.0%)	8 (40.0%)	8 (36.4%)	6 (33.3%)
70% - 79%	6 (30.0%)	5 (25.0%)	6 (27.3%)	3 (16.7%)
60% - 69%	4 (20.0%)	6 (30.0%)	4 (18.2%)	5 (27.8%)
50% - 59%	0	0	2 (9.1%)	2 (11.1%)
LOWER	0	0	0	0
MEAN	78.1%	76.6%	74.4%	75.3%
MEDIAN	79.1%	78.1%	78.2%	79.0%
S.D.	7.3	8.7	11.2	11.8

TABLE 6.3

DISTRIBUTION OF GRADE POINT AVERAGES FOR GRADE 10 UNIDENTIFIED GIFTED (10UG9)

GPA CATEGORY	GR7 GPA N= 172	GR8 GPA N=185	GR9 GPA N=198	GR10 GPA N=181
90%+	10 (5.8%)	9 (4.9%)	16 (8.1%)	9 (9.9%)
80% - 89%	79 (45.9%)	87 (47.0%)	88 (44.4%)	74 (40.9%)
70% - 79%	65 (37.8%)	62 (33.5%)	63 (31.2%)	59 (32.6%)
60% - 69%	16 (9.3%)	20 (10.8%)	24 (12.1%)	29 (16.0%)
50% - 59%	2 (1.2%)	7 (3.8%)	4 (2.0%)	7 (3.9%)
LOWER	0	0	3 (1.5%)	3 (1.7%)
MEAN	79.6%	78.7%	79.1%	76.8%
MEDIAN	80.5%	80.2%	80.5%	78.5%
S.D.	7.04	8.3	9.2	9.7

TABLE 6.3.1

DISTRIBUTION OF GRADE POINT AVERAGES FOR GRADE 10 UNIDENTIFIED GIFTED (10UG9) FEMALES

GPA CATEGORY	GR7 GPA N= 82	GR8 GPA N=88	GR9 GPA N=95	GR10 GPA N=87
90%+	5 (6.1%)	5 (5.7%)	7 (7.4%)	3 (3.4%)
80% - 89%	44 (53.7%)	49 (55.7%)	50 (52.6%)	35 (40.2%)
70% - 79%	29 (35.4%)	25 (28.4%)	27 (28.4%)	34 (39.1%)
60% - 69%	3 (3.7%)	6 (6.8%)	8 (8.4%)	11 (12.6%)
50% - 59%	1 (1.2%)	3 (3.4%)	1 (1.1%)	2 (2.3%)
LOWER	0	0	2 (2.1%)	2 (2.3%)
MEAN	80.7%	80.3%	79.9%	77.3%
MEDIAN	81.8%	81.3%	81.3%	78.5%
S.D.	6.5	7.6	8.9	8.7

DISTRIBUTION OF GRADE POINT AVERAGES FOR GRADE 10 UNIDENTIFIED GIFTED (10UG9) MALES

GPA CATEGORY	GR7 GPA N=90	GR8 GPA N=97	GR9 GPA N=104	GR10 GPA N=95
90%+	5 (5.5%)	4 (4.1%)	9 (8.7%)	6 (6.3%)
80% - 89%	35 (38.9%)	38 (39.2%)	39 (37.5%)	38 (40.0%)
70% - 79%	36 (40.0%)	37 (38.1%)	36 (34.6%)	26 (27.4%)
60% - 69%	13 (14.4%)	14 (14.4%)	16 (15.4%)	18 (18.9%)
50% - 59%	1 (1.1%)	4 (4.1%)	3 (2.8%)	5 (5.3%)
LOWER	0	0	1 (1.0%)	2 (2.1%)
MEAN	78.5%	77.3%	78.4%	76.4%
MEDIAN	79.2%	79.0%	78.9%	78.5%
S.D.	7.5	8.7	9.5	10.5

TABLE 6.4

DISTRIUBTION OF GRADE POINT AVERAGES
FOR GRADE 11 IDENTIFIED GIFTED (11IG)

GPA CATEGORY	GR7 GPA N= 104	GR8 GPA N=104	GR9 GPA N=104	GR10 GPA N=105	GR11 GPA N=102
90%+	8 (7.7%)	13 (12.5%)	14 (13.5%)	8 (7.6%)	8 (7.8%)
80% - 89%	64 (61.5%)	52 (50.0%)	44 (42.3%)	40 (38.1%)	36 (35.3%)
70% - 79%	26 (25.0%)	30 (28.8%)	37 (35.6%)	31 (29.5%)	32 (31.4%)
60% - 69%	6 (5.8%)	7 (6.7%)	4 (3.8%)	14 (13.3%)	20 (19.6%)
50% - 59%	0	2 (1.9%)	5 (4.8%)	9 (8.6%)	3 (2.9%)
LOWER	0	0	0	3 (2.9%)	3 (2.9%)
MEAN	81.8%	81.3%	80.4%	76.2%	76.3%
MEDIAN	82.3%	83.0%	81.0%	77.6%	78.0%
S.D.	6.4	7.9	8.9	11.3	10.8

TABLE 6.4.1

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 IDENTIFIED GIFTED (11IG) FEMALES

GPA CATEGORY	GR7 GPA N=47	GR8 GPA N=46	GR9 GPA N=46	GR10 GPA N=47	GR11 GPA N=44
90%+	4 (8.5%)	9 (19.6%)	5 (10.9%)	5 (10.6%)	4 (9.1%)
80% - 89%	30 (63.8%)	24 (52.2%)	22 (47.8%)	16 (34.0%)	15 (34.1%)
70% - 79%	12 (25.5%)	11 (23.9%)	17 (37.0%)	15 (31.9%)	14 (31.8%)
60% - 69%	1 (2.1%)	2 (4.3%)	1 (2.2%)	7 (14.9%)	10 (22.7%)
50% - 59%	0	0	1 (2.2%)	3 (6.4%)	1 (2.3%)
LOWER	0	0	0	1 (2.1%)	0
MEAN	82.8%	83.3%	81.6%	76.8%	77.4%
MEDIAN	82.8%	83.9%	81.3%	77.4%	78.8%
S.D.	6.1	6.6	7.7	11.1	9.4

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 IDENTIFIED GIFTED (11IG) MALES

GPA CATEGORY	GR7 GPA N=57	GR8 GPA N=58	GR9 GPA N=58	GR10 GPA N=58	GR11 GPA N=58
90%+	4 (7.0%)	4 (6.9%)	9 (15.5%)	3 (5.2%)	4 (6.9%)
80% - 89%	34 (59.6%)	28 (48.3%)	22 (37.9%)	24 (41.3%)	21 (36.2%)
70% - 79%	14 (24.6%)	19 (32.8%)	20 (34.5%)	16 (27.6%)	18 (31.0%)
60% - 69%	5 (8.8%)	5 (8.6%)	3 (5.2%)	7 (12.1%)	10 (17.2%)
50% - 59%	0	2 (3.4%)	4 (6.9%)	6 (10.3%)	2 (3.4%)
LOWER	0	0	0	2 (3.4%)	3 (5.2%)
MEAN	80.9%	79.7%	79.4%	75.7%	75.4%
MEDIAN	82.3%	81.3%	80.5%	78.2%	77.0%
S.D.	6.6	8.4	9.8	11.5	11.7

TABLE 6.5

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG6)

GPA CATEGORY	GR7 GPA N=42	GR8 GPA N=44	GR9 GPA N=44	GR10 GPA N=44	GR11 GPA N=43
90%+	1 (2.4%)	2 (4.5%)	4 (9.1%)	2 (4.5%)	2 (4.5%)
80% - 89%	23 (54.8%)	25 (56.8%)	24 (54.5%)	15 (34.1%)	15 (34.9%)
70% - 79%	14 (33.3%)	15 (34.1%)	13 (29.5%)	20 (45.5%)	14 (32.6%)
60% - 69%	4 (9.5%)	2 (4.5%)	3 (6.8%)	5 (11.4%)	11 (25.6%)
50% - 59%	0	0	0	2 (4.5%)	1 (2.3%)
LOWER	0	0	0	0	0
MEAN	79.9%	80.6%	80.1%	76.8%	75.8%
MEDIAN	81.7%	80.7%	80.8%	78.7%	77.4%
S.D.	6.6	5.9	7.4	8.4	8.5

TABLE 6.5.1

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG6) FEMALES

GPA CATEGORY	GR7 GPA N=23	GR8 GPA N=24	GR9 GPA N=24	GR10 GPA N=23	GR11 GPA N=22
90%+	0	1 (4.2%)	1 (4.2%)	0	0
80% - 89%	17 (73.9%)	16 (66.7%)	16 (66.7%)	9 (39.1%)	8 (36.5%)
70% - 79%	5 (21.7%)	7 (29.2%)	7 (29.2%)	12 (52.2%)	9 (40.9%)
60% - 69%	1 (4.3%)	0	0	2 (8.7%)	5 (22.7%)
50% - 59%	0	0	0	0	0
LOWER	0	0	0	0	0
MEAN	81.3%	81.6%	81.0%	77.5%	75.6%
MEDIAN	82.8%	81.2%	81.1%	78.8%	76.6%
S.D.	5.2	4.6	5.6	5.3	6.7

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG6) MALES

GPA CATEGORY	GR7 GPA N=19	GR8 GPA N=20	GR9 GPA N=20	GR10 GPA N=21	GR11 GPA N=21
90%+	1 (5.3%)	1 (5.0%)	3 (15.0%)	2 (9.5%)	2 (9.5%)
80% - 89%	6 (31.6%)	9 (45.0%)	8 (40.0%)	6 (28.6%)	7 (33.3%)
70% - 79%	9 (47.4%)	8 (40.0%)	6 (30.0%)	8 (38.1%)	5 (23.8%)
60% - 69%	3 (15.8%)	2 (10.0%)	3 (15.0%)	3 (14.3%)	6 (28.6%)
50% - 59%	0	0	0	2 (9.5%)	1 (4.8%)
LOWER	0	0	0	0	0
MEAN	78.5%	79.5%	79.2%	76.1%	75.9%
MEDIAN	77.8%	79.5%	80.0%	78.0%	77.9%
S.D.	7.8	7.1	9.2	10.9	10.2

TABLE 6.6

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG9)

GPA CATEGORY	GR7 GPA N=150	GR8 GPA N=165	GR9 GPA N=168	GR10 GPA N=162	GR11 GPA N=158
90%+	14(9.3%)	16 (9.7%)	14 (8.3%)	7 (4.3%)	5 (3.2%)
80% - 89%	69 (46.0%)	69 (41.8%)	76 (45.2%)	59 (36.4%)	49 (31.0%)
70% - 79%	46 (30.7%)	61 (37.0%)	60 (35.7%)	64 (39.5%)	62 (39.4%)
60% - 69%	16 (10.7%)	13 (7.9%)	10 (5.9%)	19 (11.7%)	29 (18.4%)
50% - 59%	5 (3.3%)	6 (3.6%)	7 (4.2%)	10 (6.2%)	8 (5.1%)
LOWER	0	0	1 (.6%)	3 (1.9%)	5 (3.2%)
MEAN	79.5%	79.5%	79.2%	76.2%	74.7%
MEDIAN	80.7%	80.0%	80.4%	77.8%	76.4%
S.D.	8.5	8.4	8.7	9.7	10.4

TABLE 6.6.1

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG9) FEMALES

GPA CATEGORY	GR7 GPA n=73	GR8 GPA N=78	GR9 GPA N=79	GR10 GPA N=75	GR11 GPA N=73
90%+	7 (9.6%)	6 (7.7%)	5 (6.3%)	4 (5.3%)	2 (2.7%)
80% - 89%	41 (56.2%)	42 (53.8%)	44 (55.7%)	27 (36.0%)	23 (31.5%)
70% - 79%	19 (26.0%)	23 (29.5%)	23 (29.1%)	33 (44.0%)	29 (39.7%)
60% - 69%	6 (8.2%)	6 (7.7%)	5 (6.3%)	6 (8.0%)	13 (17.8%)
50% - 59%	0	1 (1.3%)	2 (2.5%)	5 (6.7%)	5 (6.8%)
LOWER	0	0	0	0	1 (1.4%)
MEAN	81.5%	80.9%	80.3%	76.8%	74.9%
MEDIAN	82.5%	82.5%	81.6%	77.8%	77.3%
S.D.	6.6	7.1	8.0	8.5	9.6

DISTRIBUTION OF GRADE POINT AVERAGES
FOR GRADE 11 UNIDENTIFIED GIFTED (11UG9) MALES

GPA CATEGORY	GR7 GPA N= 77	GR8 GPA N=87	GR9 GPA N=89	GR10 GPA N=87	GR11 GPA N=85
90%+	7 (9.1%)	10 (11.5%)	9 (10.1%)	3 (3.4%)	3 (3.5%)
80% - 89%	28 (36.4%)	27 (31.0%)	32 (36.0%)	32 (36.8%)	26 (30.6%)
70% - 79%	27 (35.1%)	38 (43.7%)	37 (41.6%)	31 (35.6%)	33 (38.9%)
60% - 69%	10 (13.0%)	7 (8.0%)	5 (5.6%)	13 (14.9%)	16 (18.8%)
50% - 59%	5 (6.5%)	5 (5.7%)	5 (5.6%)	5 (5.7%)	3 (3.5%)
LOWER	0	0	1 (1.1%)	3 (3.4%)	4 (4.7%)
MEAN	77.8%	78.1%	78.3%	75.7%	74.4%
MEDIAN	79.0%	78.0%	79.3%	77.7%	76.3
S.D.	9.5	9.2	9.2	10.7	11.1

TABLE 6. 7

DISTRIBUTION OF GRADE POINT AVERAGES FOR GRADE 12 IDENTIFIED GIFTED MALES AND FEMALES (1216)

GPA CATEGORY	GR 7GPA N=109	GR 8GPA N=98	GR 9GPA N=100	GR 10GPA N=101	GR 11GPA N=98	GR 12GPA N=92
90% +	11 (10.1%)	9 (9.2%)	12 (12.0%)	8 (7.9%)	5 (5.1%)	4 (4.3%)
80% - 89%	60 (55.0%)	53 (54.1%)	49 (49.0%)	36 (35.6%)	35 (35.7%)	33 (35.9%)
70% - 79%	36 (33.0%)	33 (33.7%)	27 (27.0%)	35 (34.7%)	32 (32.7%)	29 (31.5%)
60% - 69%	2 (1.8%)	3 (3.1%)	11 (11.0%)	21 (20.8%)	17 (17.3%)	19 (20.7%)
50% - 59%	0	0	1 (1.0%)	1 (.9%)	8 (8.2%)	5 (5.4%)
LOWER	0	0	0	0	1 (1.0%)	2 (2.2%)
MEAN	82.6%	82.0%	81.0%	77.9%	75.7%	75.3%
MEDIAN	82.8%	83.5%	82.8%	79.0%	77.0%	78.6%
S.D.	6.1	6.8	8.4	8.8	10.1	10.7

TABLE 6. 7 .1

DISTRIBUTION OF GRADE POINT AVERAGES FOR GRADE 12 IDENTIFIED GIFTED FEMALES (1216)

GPA CATEGORY	GR 7GPA N=43	GR 8GPA N=40	GR 9GPA N=41	GR 10GPA N=41	GR 11GPA N=39	GR 12GPA N=37
90% +	8 (18.6%)	8 (20.0%)	7 (17.1%)	5 (12.2%)	3 (7.7%)	2 (5.4%)
80% - 89%	23 (53.5%)	21 (52.5%)	20 (48.8%)	13 (31.7%)	14 (35.9%)	13 (35.1%)
70% - 79%	11 (25.6%)	10 (25.0%)	10 (24.4%)	15 (36.6%)	11 (28.2%)	9 (24.3%)
60% - 69%	1 (2.3%)	1 (2.5%)	3 (7.3%)	8 (19.5%)	9 (23.1%)	10 (27.0%)
50% - 59%	0	0	1 (2.4%)	0	2 (5.1%)	2 (5.4%)
LOWER	0	0	0	0	0	1 (2.7%)
MEAN	84.3%	83.8%	82.4%	78.5%	76.4%	74.8%
MEDIAN	85.8%	84.3%	84.8%	79.0%	77.0%	78.7%
S.D.	6.2	7.9	9.2	9.1	9.9	11.7

DISTRIBUTION OF GRADE POINT AVERAGES FOR GRADE 12 IDENTIFIED GIFTED MALES (1216)

GPA CATEGORY	GR 7GPA N=66	GR 8GPA N=58	GR 9GPA N=59	GR 10GPA N=60	GR 11GPA N=59	GR 12 GPA N=55
90% +	3 (4.5%)	1 (1.7%)	5 (8.5%)	3 (5.0%)	2 (3.4%)	2 (3.6%)
80% - 89%	37 (56.1%)	32 (55.2%)	29 (49.2%)	23 (38.3%)	21 (35.6%)	20 (36.4%)
70% - 79%	25 (37.9%)	23 (39.7%)	17 (28.8%)	20 (33.3%)	21 (35.6%)	20 (36.4%)
60% - 69%	1 (1.5%)	2 (3.4%)	8 (13.6%)	13 (21.7%)	8 (13.6%)	9 (16.4%)
50% - 59%	0	0	0	1 (1.7%)	6 (10.2%)	3 (5.5%)
LOWER	0	0	0	0	1 (1.7%)	1 (1.8%)
MEAN	81.4%	80.7%	80.1%	77.5%	75.2%	75.6%
MEDIAN	82.5%	82.0%	81.8%	78.5%	77.6%	78.1%
S.D.	5.9	6.1	7.7	8.7	10.3	10.1

TABLE 6. 8

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 12
UNIDENTIFIED GIFTED MALES AND FEMALES (12UG6)

GPA CATEGORY	GR 7GPA	GR 8GPA	GR 9GPA	GR 10GPA	GR 11GPA	GR 12 GPA
	N=46	N=47	N=48	N=50	N=48	N=45
90% +	6 (13.0%)	8 (17.0%)	5 (10.4%)	6 (12.0%)	2 (4.1%)	3 (6.7%)
80% - 89%	23 (50.0%)	22 (46.8%)	27 (56.3%)	20 (40.0%)	20 (41.7%)	17 (37.8%)
70% - 79%	16 (34.8%)	15 (31.9%)	12 (25.0%)	15 (30.0%)	13 (27.1%)	12 (26.7%)
60% - 69%	1 (2.2%)	2 (4.3%)	4 (8.3%)	8 (16.0%)	11 (22.9%)	8 (17.8%)
50% - 59%	0	0	0	1 (2.0%)	1 (2.1%)	4 (8.4%)
LOWER	0	0	0	0	1 (2.1%)	1 (2.2%)
MEAN	82.1%	81.8%	81.7%	79.0%	76.6%	76.0%
MEDIAN	81.8%	82.5%	82.3%	81.8%	79.2%	78.6%
S.D.	6.3	7.3	7.2	8.9	10.7	11.6

TABLE 6. 8 .1

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 12
UNIDENTIFIED GIFTED FEMALES (12UG6)

GPA CATEGORY	GR 7GPA	GR 8GPA	GR 9GPA	GR 10GPA	GR 11GPA	GR 12GPA
	N=16	N=16	N=17	N=17	N=17	N=16
90% +	1 (6.3%)	4 (25.0%)	2 (11.8%)	2 (11.8%)	1 (5.9%)	0
80% - 89%	10 (62.5%)	8 (50.0%)	13 (76.5%)	7 (41.2%)	5 (29.4%)	6 (37.5%)
70% - 79%	4 (25.0%)	3 (18.8%)	2 (11.8%)	5 (29.4%)	7 (41.2%)	6 (37.5%)
60% - 69%	1 (6.3%)	1 (6.3%)	0	3 (17.6%)	4 (23.5%	3 (18.8%)
50-59%	0	0	0	0	0	1 (6.3%)
LOWER	0	0	0	0	0	0
MEAN	82.0%	83.5%	83.8%	79.4%	76.9%	76.3%
MEDIAN	82.3%	83.2%	82.3%	82.0%	78.0%	77.6%
S.D.	6.1	6.4	4.7	7.8	8.5	7.8

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 12
UNIDENTIFIED GIFTED MALES (12UG6)

GPA CATEGORY	GR 7GPA	GR 8GPA	GR 9GPA	GR 10GPA	GR 11GPA	GR 12 GPA
	N= 30	N=31	N=31	N=33	N=31	N=29
90% +	5 (16.7%)	4 (12.9%)	3 (9.7%)	4 (12.1%)	1 (3.2%)	3 (10.3%)
80% - 89%	13 (43.3%)	14 (45.2%)	14 (45.2%)	13 (39.4%)	15 (48.4%)	11 (37.9%)
70% - 79%	12 (40.0%)	12 (38.7%	10 (32.3%)	10 (30.3%)	6 (19.4%)	6 (20.7%)
60% - 69%	0	1 (3.2%)	4 (12.9%)	5 (15.2%)	7 (22.6%)	5 (17.2%)
50% - 59%	0	0	0	1 (3.0%)	1 (3.2%)	3 (10.3%)
LOWER	0	0	0	0	1 (3.2%)	1 (3.4%)
MEAN	82.2%	80.9%	80.6%	78.9%	76.5%	75.8%
MEDIAN	81.6%	82.5%	82.0%	81.8%	80.2%	78.7%
S.D.	6.5	7.6	8.2	9.5	11.8	13.4

TABLE 6.9

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 12 UNIDENTIFIED GIFTED MALES AND FEMALES (12UG9)

GPA CATEGORY	GR 7GPA N=49	GR 8GPA N=51	GR 9GPA N=52	GR 10GPA N=52	GR 11GPA N=48	GR 12GPA N=42
90% +	7 (14.3%)	8 (15.7%)	7 (13.5%)	5 (9.6%)	2 (4.2%	3 (7.1%)
80% - 89%	23 (46.9%)	22 (43.1%)	23 (44.2%)	22 (42.3%)	19 (39.6%)	22 (52.4%)
70% - 79%	15 (30.6%)	16 (31.4%)	16 (30.8%)	12 (23.1%)	16 (33.3%)	7 (16.7%)
60% - 69%	3 (6.1%)	5 (9.8%)	4 (7.7%)	9 (17.3%)	7 (14.6%)	7 (16.7%)
50% - 59%	1 (2.0%)	0	2 (3.8%)	4 (7.7%)	4 (8.3%)	3 (7.1%)
LOWER	0	0	0	0	0	0
MEAN	81.3%	81.6%	80.5%	77.8%	76.8%	78.3%
MEDIAN	82.5%	83.0%	81.0%	81.3%	79.3%	81.4%
S.D.	8.6	8.0	8.9	10.5	9.7	10.2

TABLE 6.9 .1

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 12 UNIDENTIFIED GIFTED FEMALES (12UG9)

GPA CATEGORY	GR 7GPA N=17	GR 8GPA N=18	GR 9GPA N=18	GR 10GPA N=18	GR 11GPA N=17	GR 12GPA N=14
90% +	2 (11.8%)	4 (22.2%)	3 (16.7%)	1 (5.6%)	1 (5.9%)	0
80% - 89%	9 (52.9%)	8 (44.4%)	9 (50.0%)	10 (55.6%)	5 (29.4%)	7 (50.0%)
70% - 79%	4 (23.5%)	5 (27.8%)	5 (27.8%)	3 (16.7%)	8 (47.1%)	4 (28.6%)
60% - 69%	1 (5.9%)	1 (5.6%)	0	3 (16.7%)	3 (17.6%)	2 (14.3%)
50% - 59%	1 (5.9%)	0	1 (5.6%)	1 (5.6%)	0	1 (7.1%)
LOWER	0	0	0	0	0	0
MEAN	81.0%	82.9%	82.5%	79.2%	77.1%	76.9%
MEDIAN	82.5%	84.4%	83.0%	82.1%	79.2%	79.2
S.D.	8.9	7.8	8.4	8.9	7.9	7.9

DISTRIBUTION OF GRADE POINT AVERAGES OF GRADE 12 UNIDENTIFIED GIFTED MALES (12UG9)

GPA CATEGORY	GR 7GPA N=32	GR 8GPA N=33	GR 9GPA N=34	GR 10GPA N=34	GR 11GPA N=31	GR 12GPA N=28
90% +	5 (15.6%)	4 (12.1%)	4 (11.8%)	4 (11.8%)	1 (3.2%)	3 (10.7%)
80%-89%	14 (43.8%)	14 (42.4%)	14 (41.2%)	12 (35.3%)	14 (45.2%)	15 (53.6%)
70% - 79%	11 (34.4%)	11 (33.3%)	11 (32.4%)	9 (26.5%)	8 (25.8%)	3 (10.7%)
60% - 69%	2 (6.3%)	4 (12.1%)	4 (11.8%)	6 (17.6%)	4 (12.9%)	5 (17.9%)
50% - 59%	0	0	1 (2.9%)	3 (8.8%)	4 (12.9%)	2 (7.1%)
LOWER	0	0	0	0	0	0
MEAN	81.4%	80.8%	79.5%	77.1%	76.6%	79.0%
MEDIAN	83.8%	82.3%	80.0%	78.8%	79.8%	81.9%
S.D.	8.5	8.2	9.1	11.3	10.6	11.2

APPENDIX 7

"IDENTIFIED GIFTED" AND "UNIDENTIFIED GIFTED" INTERVIEWEES' SUGGESTIONS FOR CHANGE IN THE SCHOOL SYSTEM

SUGGESTIONS FOR CHANGE IN SCHOOL SYSTEM BY GIFTED STUDENTS

I. ORGANIZATIONAL

.Provide smaller classes and schools "so that everyone is friends and you know a lot of teachers"

.Provide greater flexibility and choice in taking classes -- "no say in deciding what to study"; "regular classes could be more like Montessori - choice of what to do, when you wanted to. It would be more enjoyable"; "You should have a different approach in high school- too many mandatory classes - have to do a lot of what teachers want and not what you want".

.Have longer school days "would like to take about 10 classes per semester. Add another period block"

.Have more options and a greater diversity of programs especially at senior high level -- "more creative programs like those offered in elementary. Maybe establish a school where talent (music, ballet) is part of the curriculum. Need to accommodate students' special needs but you still need a system for kids who have no talent"

.Shorten elementary and have a 4 year high school program

.Allow for greater flexibility in timetabling --"try a set-up when you can go to the classes you want to, like University"; "get rid of times, come in anytime you want; however, stay as long as you want. Should have two groups - one for those who want to come, and one for those who don't"

.Provide ability groupings and/or differentiated classes -- "classes are organized fairly randomly with a lot of kids which slow other kids down"; "... if classes were more streamlined in elementary and junior high,it would be to the student's advantage"; "...different classes for students who learn at different rates..."

.Change semester system
.Eliminate the lunch hour -- "waste of time"

II. INSTRUCTIONAL

.Evaluate teachers -- "They should watch teachers more closely. There are some you can't understand what they're saying. They don't know how to teach..."; "Some teachers are out of touch with students,if you dislike them, it's not much fun... but I'm not a complainer"; "... a lot of teachers don't communicate well - leave some kids sitting in the dark, mostly in Physics, Math and Computing Science - try to teach to a non-existent middle range"

"... few frustrating teachers - some can't be removed unless they've done something criminal"

.Raise quality of teaching staff -- "...they should double the salary of teachers to raise the quality of teachers ... some teachers are not really qualified."

.Standardize and/or improve system of evaluation --"grading varies too much between teachers and schools"; "... too much stress on marks but I guess it's necessary - not so much stress in elementary, more on learning"; "... don't mark hard enough, half of the people can't speak good, need to raise standards..."

"... a lot of cheating goes on..."
"... some teachers scale marks and you don't get the marks you deserve";

"better marking system - you get marked down on opinion"
" I'd like to see the posting of marks - reading of marks in class is cruel for those with lower marks"
" ... dislike handing out of marks in rank order..."
"... don't understand the grading system..."

.Ensure more consistency and/or standardization of course content-- "... not all teachers teach the right stuff - a different amount of knowledge from different teachers in the same course"

.Personalize high schools -"change student-teacher relationships at high school; they're more estranged at high school, should be more of a friendship. At junior high, they guide students more"

"... get teachers involved in extra-curricular activities"

.Encourage students to achieve potential/raise standards and expectations --"Some students need pushing - I haven't been pushed enough"; "make standards higher..."; " ... don't have to know a lot to do well."

.Provide greater independence and responsibility to students in classes -- "involvement in decision making on what goes on, more group work"; "... would like more independence, may induce abuse but I still don't like the over-protectiveness."

.Quicken pace of instruction --"in some ways, I think it would be better if things moved faster. Then I would be motivated to do something, maybe get a little more out of it."

.Provide greater emphasis on creative thinking and less on memorization -- "...too many formalities -- take away from learning, just have to regurgitate material"

.Reduce amount of homework --"work load is too much - a good 4 - 5 hours every evening - rather go longer and have less homework"; "... cut down on the number of assignments and increase number of tests"

.Inrcrease amount of student involvement --"not enough time to go over work, need time to ask more questions; more time to write"

.Eliminate departmentals

III. CURRICULAR

.Provide a greater emphasis on English (the basics) and Canadian History "... too much emphasis on literature, poetry and Shakespeare...lots of people who don't read or write - emphasis should be on skills of communication, greater emphasis on how to write. That stopped in elementary."

"... specific classes in areas of weakness in English - public speaking is not emphasized - everyone needs help here"

.Provide more emphasis on "Science and not so much on History and English. Society is technical and we need to be made more aware of computers and high technology"

"... more emphasis on Math/Science, less English; increase level of instruction - not enough information given. It's based on simple concepts which have little use".

"... overemphasis on English, deemphasis on sciences - don't like discussions in English - have to put up with a lot of people talking about things they don't know about "

.Make Physical Education optional

.Stress PFL (Perspectives for Living) courses --"need more life skills,coping skills. I've learned more at work than at school".

CHARACTERISTICS OF IDEAL TEACHER
AS SEEN BY GIFTED STUDENTS

I. ATTITUDE

.Really likes his job, doesn't look at teaching as just a job
.Is interested in kids
.Feels responsible for your education
.Enthusiastic and wants to share his information
.Has a high level of energy
.Creates an atmosphere of respect -- you may not like him, but you respect him
.Establishes an atmosphere where everyone is equal and gets the same attention, doesn't show favouritism
.Doesn't put himself on a pedastal
.Not condescending and talks ot students on a person to person level
.Isn't authoritarian - some act like they're God
.Cares about you as "people", not just as students or percentages
.Is controlled and doesn't fly off the handle
.Doesn't embarass you in class
.Is firm and has good discipline
.Is involved with the "total" student
.Admits when he is wrong
.Doesn't assume you know everything
.Actually listens to students
.Understands other course demands
.Is open-minded and doesn't pass on his own biases
.Is fair, not inconsistent or hypocritical
.Is open to suggestion, argument and student opinion
.Always available to talk to students
.Continues to learn himself
.Treats you with respect, trusts you and gives you independence
.Is smart, knows more than what's in the book
.Establishes high standards and makes demands on you
.Has new ideas, is innovative
.Gives rewards or some satisfaction for doing work, makes it feel like it has some meaning or relevance
.Acts and looks like a professional -- "I mean, some are pretty tacky. I know we're not here for a fashion show but you don't take some teachers seriously. You don't respect them and they have trouble with discipline"

II. MODE OF PRESENTATION

.Able to teach, to convey information so that you want to learn and remember
.Explains why you do things and shows the logic in what you're doing
.Explains clearly and is able to get to the heart of the

matter without muddling around
.Goes into greater depth so that you can really understand
.Uses examples that relate to us
.Presents material in an appealing way and not in a monotone voice
.Speaks well and can make it funny or interesting
.Makes it seem meaningful
.Doesn't take his subject so seriously all the time
.Is not a textbook teacher and will "manipulate" the curriculum
.Talks about personal experiences to make him seem more human, more like us

III. INSTRUCTIONAL STRATEGIES

.Encourages you to ask more questions
.Is willing to answer your questions and doesn't make you feel like a fool
.Allows different interpretations to questions and assignments
.Gives creative assignments
.Doesn't make you conform to one style of writing
.Provides variety in assignments
.Screens audio-visual materials better
.Doesn't write notes on the board all the time
.Marks assignments quickly so you keep your interest up
.Moves you through the material faster
.Makes you work a lot
.Balances interest between groups and individuals
.Is flexible according to the needs of the group
.Allows you to work on your own and sometimes ahead of others in the class
.Attempts to get students involved
.Doesn't worry about lesson plans and time schedules
.Is a good manager of time, don't like it when they take a concept and stretch it to fill the block when it could be done in 20 minutes
.Takes time out to do other thingsother than just what's in the textbook

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September 11, 1986

Ms. Marian Stelmaschuk
1049 109th Street
Edmunton, Alberta, CAN
T6J 5G2

Dear Ms. Stelmaschuk:

In reference to your telephone call of today. Of course, I am happy to give you consent to use Figure 2: Graphic Representation of Giftedness that appeared in the November, 1978 issue, Page 184 of the Phi Delta Kappan, in your appendices for your thesis.

Good luck in your work.

Sincerely,

Joe Renzulli

Joseph S. Renzulli, Ed.D.
Professor, Educational Psychology
Director, Teaching The Talented Programs

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Manager,
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